



**2020**  
**USO GENERAL**



[www.herramientascleveland.com](http://www.herramientascleveland.com)



USO GENERAL



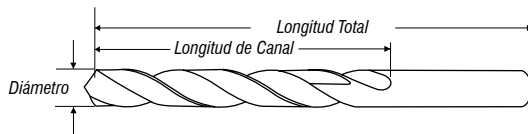
# ► LISTA: 2120 BROCA CORTA



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Código
	pulg	mm	pulg	mm	
9/64	.9383	23.81	1.938	49.21	C04437
3/16	.2500	28.58	2.188	55.56	C04470
1/4	3.375	34.93	2.500	63.50	C04509
5/16	1.125	41.28	2.813	71.44	C04542
21/64	1.375	42.86	3.000	76.20	C04550
3/8	1.438	46.04	3.125	79.38	C04572
29/64	1.625	53.98	3.563	90.49	C04594
1/2	1.688	57.15	3.750	95.25	C04601
37/64	1.813	66.68	4.125	104.78	C04614
5/8	2.125	69.85	4.250	107.95	C04622
41/64	2.250	73.03	4.500	114.30	C04625
11/16	2.625	73.03	4.625	117.48	C04632
45/64	2.750	76.20	4.750	120.65	C04634
23/32	2.875	76.20	4.750	120.65	C04636
47/64	2.875	79.38	5.000	127.00	C04638
3/4	3.000	79.38	5.000	127.00	C04640
49/64	3.000	82.55	5.125	130.18	C04641
25/32	3.125	79.38	5.125	130.18	C04643
13/16	3.125	79.38	5.250	133.35	C04647
53/64	3.250	82.55	5.375	136.53	C04649
55/64	3.500	88.90	5.500	139.70	C04652
7/8	3.500	88.90	5.500	139.70	C04654
57/64	3.625	92.08	5.625	142.88	C04656
29/32	3.625	92.08	5.625	142.88	C04658
15/16	3.750	95.25	5.750	146.05	C04661
61/64	3.875	98.43	5.875	149.23	C04663
31/32	3.875	98.43	5.875	149.23	C04665
63/64	4.000	101.60	6.000	152.40	C04667
1	4.000	101.60	6.000	152.40	C04668
1-1/16*	4.000	101.60	6.250	158.75	C04675
1-1/8*	4.000	101.60	6.375	161.93	C04683
1-1/4*	4.375	111.13	6.750	171.45	C04697



Ventajas del uso de Brocas de longitud corta:  
 -Ofrece mayor rigidez  
 -Mantiene una mayor precisión al perforar

\* Desde 1" hasta 1-1/4" tienen 1" en el zanco.



Ver página 191 para Información Técnica.



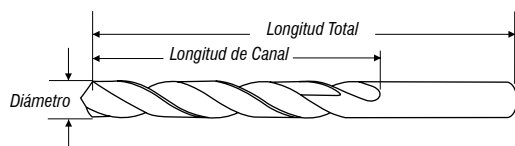
# ▶ LISTA: 2001 BROCA JOBBER



## Aplicaciones



## Características



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código	
	Númerica	Milimétrica	pulg	mm	pulg	mm		
1/64	80		0.125	3.18	0.750	19.05	C01012	
			0.188	4.76	0.750	19.05	C01016	
		78		0.188	4.76	0.875	22.23	C01018
		77		0.188	4.76	0.875	22.23	C01021
		76		0.188	4.76	0.875	22.23	C01024
		75		0.250	6.35	1.000	25.40	C01025
		74		0.250	6.35	1.000	25.40	C01027
		73		0.313	7.94	1.125	28.58	C01029
		72		0.313	7.94	1.125	28.58	C01030
		71		0.375	9.53	1.125	31.75	C01032
		70		0.375	9.53	1.125	31.75	C01034
		69		0.500	12.70	1.375	34.93	C01035
1/32	68		0.500	12.70	1.375	34.93	C01037	
			0.500	12.70	1.375	34.93	C01038	
		67		0.500	12.70	1.375	34.93	C01040
		66		0.500	12.70	1.375	34.93	C01041
		65		0.625	15.88	1.500	38.10	C01043
		64		0.625	15.88	1.500	38.10	C01045
		63		0.625	15.88	1.500	38.10	C01046
		62		0.625	15.88	1.500	38.10	C01048
		61		0.688	17.48	1.500	38.10	C01049
			1.00	0.472	12.00	1.339	34.00	C01050
		60		0.688	17.48	1.625	41.28	C01051
		59		0.688	17.48	1.625	41.28	C01052
	58		0.688	17.48	1.625	41.28	C01054	
	57		0.750	19.05	1.750	44.45	C01055	
		1.10	0.551	14.00	1.417	36.00	C01056	
		1.15	0.551	14.00	1.417	36.00	C01057	
3/64	56		0.750	19.05	1.750	44.45	C01058	
			0.750	19.05	1.750	44.45	C01059	
			1.20	0.630	16.00	1.496	38.00	C01060
			1.25	0.630	16.00	1.496	38.00	C01061
			1.30	0.630	16.00	1.496	38.00	C01062
		55		0.875	22.23	1.875	47.63	C01063
			1.35	0.709	18.00	1.575	40.00	C01064
		54		0.875	22.23	1.875	47.63	C01065
			1.40	0.709	18.00	1.575	40.00	C01066
			1.45	0.709	18.00	1.575	40.00	C01067
			1.50	0.709	18.00	1.575	40.00	C01068
		53		0.875	22.23	1.875	47.63	C01069
		1.55	0.787	20.00	1.693	43.00	C01070	
1/16			0.875	22.23	1.875	47.63	C01071	
		1.60	0.787	20.00	1.693	43.00	C01072	
	52		0.875	22.23	1.875	47.63	C01073	



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Númerica	Milimétrica	pulg	mm	pulg	mm	
		1.65	0.787	20.00	1.693	43.00	C01074
		1.70	0.787	20.00	1.693	43.00	C01075
	51		1.000	25.40	2.000	50.80	C01076
		1.75	0.866	22.00	1.811	46.00	C01077
	50		1.000	25.40	2.000	50.80	C01078
		1.80	0.866	22.00	1.811	46.00	C01079
		1.85	0.866	22.00	1.811	46.00	C01080
	49		1.000	25.40	2.000	50.80	C01081
		1.90	0.866	22.00	1.811	46.00	C01082
	48		1.000	25.40	2.000	50.80	C01083
		1.95	0.945	24.00	1.929	49.00	C01084
	5/64		1.000	25.40	2.000	50.80	C01085
			1.000	25.40	2.000	50.80	C01086
		2.00	0.945	24.00	1.929	49.00	C01087
		2.05	0.945	24.00	1.929	49.00	C01088
	46		1.125	28.58	2.125	53.98	C01089
	45		1.125	28.58	2.125	53.98	C01090
		2.10	0.945	24.00	1.929	49.00	C01091
		2.15	1.063	27.00	2.087	53.00	C01092
	44		1.125	28.58	2.125	53.98	C01093
		2.20	1.063	27.00	2.087	53.00	C01094
		2.25	1.063	27.00	2.087	53.00	C01095
	43		1.250	31.75	2.250	57.15	C01096
		2.30	1.063	27.00	2.087	53.00	C01097
		2.35	1.063	27.00	2.087	53.00	C01098
	42		1.250	31.75	2.250	57.15	C01099
	3/32		1.250	31.75	2.250	57.15	C01100
		2.40	1.181	30.00	2.244	57.00	C01101
	41		1.375	34.93	2.375	60.33	C01102
		2.45	1.181	30.00	2.244	57.00	C01103
	40		1.375	34.93	2.375	60.33	C01104
		2.50	1.181	30.00	2.244	57.00	C01105
	39		1.375	34.93	2.375	60.33	C01106
	38		1.438	36.53	2.500	63.50	C01107
		2.60	1.181	30.00	2.244	57.00	C01108
	37		1.438	36.53	2.500	63.50	C01109
		2.70	1.299	33.00	2.402	61.00	C01110
	36		1.438	36.53	2.500	63.50	C01111
		2.75	1.438	36.53	2.500	63.50	C01112
	7/64		1.500	38.10	2.625	66.68	C01113
			1.500	38.10	2.625	66.68	C01114
	35		1.299	33.00	2.402	61.00	C01115
		2.80	1.500	38.10	2.625	66.68	C01116
	34		1.500	38.10	2.625	66.68	C01117
			1.500	38.10	2.625	66.68	C01118
	33		1.299	33.00	2.402	61.00	C01119
		2.90	1.299	33.00	2.402	61.00	C01120
	32		1.625	41.28	2.750	68.85	C01121
		3.00	1.299	33.00	2.402	61.00	C01122
	31		1.625	41.28	2.750	68.85	C01123
		3.10	1.417	36.00	2.559	65.00	C01124
	1/8		1.625	41.28	2.750	68.85	C01125
			1.625	41.28	2.750	68.85	C01126
		3.20	1.457	36.00	2.598	65.00	C01127
		3.25	1.457	37.00	2.598	66.00	C01128
	30		1.625	41.28	2.750	68.85	C01129
		3.30	1.496	36.00	2.638	65.00	C01130
		3.40	1.535	39.00	2.756	70.00	C01131
	29		1.750	44.45	2.875	73.00	C01132
		3.50	1.535	39.00	2.756	70.00	C01133
	28		1.750	44.45	2.875	73.00	C01134
	9/64		1.750	44.45	2.875	73.00	C01135
			1.750	44.45	2.875	73.00	C01136
		3.60	1.535	39.00	2.756	70.00	C01137
	27		1.875	47.63	3.000	76.20	C01138
		3.70	1.535	39.00	2.756	70.00	C01139
	26		1.875	47.63	3.000	76.20	C01140
		3.75	1.535	39.00	2.756	70.00	C01141

Fraccional	Diámetro			Longitud de Canal		Longitud Total		Código
	Númerica	Milimétrica	Alfabética	pulg	mm	pulg	mm	
	25			1.875	47.63	3.000	76.20	C01138
		3.80		1.693	43.00	2.953	75.00	C01139
	24			2.000	50.80	3.125	79.38	C01140
		3.90		1.693	43.00	2.953	75.00	C01141
	23			2.000	50.80	3.125	79.38	C01142
5/32				2.000	50.80	3.125	79.38	C01143
	22			2.000	50.80	3.125	79.38	C01144
		4.00		1.693	43.00	2.953	75.00	C01145
	21			2.125	53.98	3.250	82.55	C01146
	20			2.125	53.98	3.250	82.55	C01147
		4.10		1.693	43.00	2.953	75.00	C01148
		4.20		1.693	43.00	2.953	75.00	C01149
	19			2.125	53.98	3.250	82.55	C01150
		4.25		1.850	47.00	3.150	80.00	C01151
		4.30		1.850	47.00	3.150	80.00	C01152
	18			2.125	53.98	3.250	82.55	C01153
11/64				2.125	53.98	3.250	82.55	C01154
	17			2.188	55.58	3.375	85.73	C01155
		4.40		1.850	47.00	3.150	80.00	C01156
	16			2.188	55.58	3.375	85.73	C01157
		4.50		1.850	47.00	3.150	80.00	C01158
	15			2.188	55.58	3.375	85.73	C01159
		4.60		1.850	47.00	3.150	80.00	C01160
	14			2.188	55.58	3.375	85.73	C01161
	13			2.313	58.75	3.500	88.90	C01162
		4.70		1.850	47.00	3.150	80.00	C01163
		4.75		1.850	47.00	3.150	80.00	C01164
3/16				2.313	58.75	3.500	88.90	C01165
	12			2.313	58.75	3.500	88.90	C01166
		4.80		2.047	52.00	3.386	86.00	C01167
	11			2.313	58.75	3.500	88.90	C01168
		4.90		2.047	52.00	3.386	86.00	C01169
	10			2.438	61.93	3.625	92.08	C01170
	9			2.438	61.93	3.625	92.08	C01171
		5.00		2.047	52.00	3.386	86.00	C01172
	8			2.438	61.93	3.625	92.08	C01173
		5.10		2.047	52.00	3.386	86.00	C01174
	7			2.438	61.93	3.625	92.08	C01175
13/64				2.438	61.93	3.625	92.08	C01176
	6			2.500	61.93	3.750	95.25	C01177
		5.20		2.047	52.00	3.386	86.00	C01178
	5			2.500	61.93	3.750	95.25	C01179
		5.25		2.047	52.00	3.386	86.00	C01180
		5.30		2.244	57.00	3.661	93.00	C01181
	4			2.500	61.93	3.750	95.25	C01182
		5.40		2.244	57.00	3.661	93.00	C01183
	3			2.500	61.93	3.750	95.25	C01184
		5.50		2.244	57.00	3.661	93.00	C01185
7/32				2.500	61.93	3.750	95.25	C01186
		5.60		2.244	57.00	3.661	93.00	C01187
	2			2.625	66.68	3.875	98.43	C01188
		5.70		2.244	57.00	3.661	93.00	C01189
		5.75		2.244	57.00	3.661	93.00	C01190
	1			2.625	66.68	3.875	98.43	C01191
		5.80		2.244	57.00	3.661	93.00	C01192
		5.90		2.244	57.00	3.661	93.00	C01193
15/64			A	2.625	66.68	3.875	98.43	C01194
				2.625	66.68	3.875	98.43	C01195
		6.00		2.244	57.00	3.661	93.00	C01196
			B	2.750	69.85	4.000	101.60	C01197
		6.10		2.480	63.00	3.976	101.00	C01198
			C	2.750	69.85	4.000	101.60	C01199
		6.20		2.480	63.00	3.976	101.00	C01200
			D	2.750	69.85	4.000	101.60	C01201

Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código	
	Milimétrica	Alfabética	pulg	mm	pulg	mm		
1/4	6.25		2.480	63.00	3.976	101.00	C01202	
	6.30		2.480	63.00	3.976	101.00	C01203	
		E	2.750	69.85	4.000	101.60	C01204	
	6.40		2.480	63.00	3.976	101.00	C01206	
	6.50		2.480	63.00	3.976	101.00	C01207	
		F	2.875	73.03	4.125	104.78	C01208	
	6.60		2.480	63.00	3.976	101.00	C01209	
		G	2.875	73.03	4.125	104.78	C01210	
	6.70		2.480	63.00	3.976	101.00	C01211	
	17/64			2.875	73.03	4.125	104.78	C01212
6.75			2.480	63.00	3.976	101.00	C01213	
		H	2.875	73.03	4.125	104.78	C01214	
6.80			2.717	69.00	4.291	109.00	C01215	
6.90			2.717	69.00	4.291	109.00	C01216	
		I	2.875	73.03	4.125	104.78	C01217	
	7.00		2.717	69.00	4.291	109.00	C01218	
		J	2.875	73.03	4.125	104.78	C01219	
	7.10		2.717	69.00	4.291	109.00	C01220	
		K	2.938	74.63	4.250	107.95	C01221	
	7.20		2.717	69.00	4.291	109.00	C01222	
	7.25		2.717	69.00	4.291	109.00	C01223	
	7.30		2.717	69.00	4.291	109.00	C01224	
	9/32		L	2.938	74.63	4.250	107.95	C01225
				2.938	74.63	4.250	107.95	C01226
7.40			2.717	69.00	4.291	109.00	C01227	
		M	3.063	77.80	4.375	111.13	C01228	
7.50			2.717	69.00	4.291	109.00	C01229	
19/64			3.063	77.80	4.375	111.13	C01230	
	7.60		3.063	77.80	4.375	111.13	C01231	
		N	3.063	77.80	4.375	111.13	C01232	
	7.70		2.953	75.00	4.606	117.00	C01233	
	7.75		2.953	75.00	4.606	117.00	C01234	
	7.80		2.953	75.00	4.606	117.00	C01235	
	7.90		2.953	75.00	4.606	117.00	C01236	
	5/16			3.188	80.98	4.500	114.30	C01237
		8.00		2.953	75.00	4.606	117.00	C01238
			O	3.188	80.98	4.500	114.30	C01239
8.10			2.953	75.00	4.606	117.00	C01240	
8.20			2.953	75.00	4.606	117.00	C01241	
		P	3.313	84.15	4.625	117.40	C01242	
	8.25		3.313	84.15	4.625	117.40	C01243	
	8.30		3.313	84.15	4.625	117.40	C01244	
	21/64			3.313	84.15	4.625	117.40	C01245
		8.40		2.953	75.00	4.606	117.00	C01246
		Q	3.438	87.33	4.750	120.65	C01247	
8.50			2.953	75.00	4.606	117.00	C01248	
8.60			3.438	87.33	4.750	120.65	C01249	
		R	3.438	87.33	4.750	120.65	C01250	
	8.70		3.189	81.00	4.921	125.00	C01251	
	11/32			3.438	87.33	4.750	120.65	C01252
		8.75		3.189	81.00	4.921	125.00	C01253
		8.80		3.189	81.00	4.921	125.00	C01254
		S	3.500	88.00	4.875	123.83	C01255	
8.90			3.189	81.00	4.921	125.00	C01256	
	9.00		3.189	81.00	4.921	125.00	C01257	
		T	3.500	88.00	4.875	123.83	C01258	
	9.10		3.500	88.00	4.875	123.83	C01259	
	23/64			3.500	88.00	4.875	123.83	C01260
		9.20		3.189	81.00	4.921	125.00	C01261
9.25			3.189	81.00	4.921	125.00	C01262	
9.30			3.189	81.00	4.921	125.00	C01263	
		U	3.625	92.08	5.000	127.00	C01264	
	9.40		3.189	81.00	4.921	125.00	C01265	
	9.50		3.189	81.00	4.921	125.00	C01266	

Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Milimétrica	Alfabética	pulg	mm	pulg	mm	
3/8			3.625	92.08	5.000	127.00	C01267
		V	3.625	92.08	5.000	127.00	C01268
	9.60		3.425	87.00	5.236	133.00	C01269
	9.70		3.425	87.00	5.236	133.00	C01270
	9.75		3.425	87.00	5.236	133.00	C01271
	9.80		3.425	87.00	5.236	133.00	C01272
		W	3.750	95.25	5.125	130.18	C01273
	9.90		3.750	95.25	5.125	130.18	C01274
25/64			3.750	95.25	5.125	130.18	C01275
	10.00		3.425	87.00	5.236	133.00	C01276
		X	3.750	95.25	5.125	130.18	C01277
	10.20		3.425	87.00	5.236	133.00	C01278
		Y	3.875	98.43	5.250	133.35	C01279
	10.30		3.875	98.43	5.250	133.35	C01280
13/32			3.875	98.43	5.250	133.35	C01281
		Z	3.875	98.43	5.250	133.35	C01282
	10.50		3.425	87.00	5.236	133.00	C01283
27/64			3.938	100.03	5.375	136.53	C01284
	10.80		3.701	94.00	5.591	142.00	C01285
	11.00		3.701	94.00	5.591	142.00	C01286
7/16			4.063	103.20	5.500	139.70	C01287
	11.20		3.701	94.00	5.591	142.00	C01288
	11.50		3.701	94.00	5.591	142.00	C01289
29/64			4.188	106.38	5.625	142.88	C01290
	11.80		3.701	94.00	5.750	146.05	C01291
15/32			4.313	109.55	5.750	146.05	C01292
	12.00		3.976	101.00	5.945	151.00	C01293
	12.20		3.976	101.00	5.945	151.00	C01294
31/64			4.375	111.13	5.875	149.23	C01295
	12.50		3.976	101.00	5.945	151.00	C01296
1/2			4.500	114.30	6.000	152.40	C01297
	13.00		3.976	101.00	5.945	151.00	C01299
33/64			4.813	122.25	6.625	168.28	C01300
17/32			4.813	122.25	6.625	168.28	C01302
	13.50		4.253	108.00	6.266	160.00	C01303
35/64			4.813	122.25	6.625	168.28	C01305
	14.00		4.252	108.00	6.299	160.00	C01306
9/16			4.813	122.25	6.625	168.28	C01308
	14.50		4.488	114.00	6.654	169.00	C01309
37/64			4.813	122.25	6.625	168.28	C01310
	15.00		4.488	114.00	6.654	169.00	C01312
19/32			5.188	131.78	7.125	180.98	C01313
39/64			5.188	131.78	7.125	180.98	C01315
	15.50		4.724	120.00	7.008	178.000	C01316
5/8			5.188	131.78	7.125	180.98	C01318
	16.00		4.724	120.00	7.008	178.000	C01319
41/64			5.188	131.78	7.125	180.98	C01321
	16.50		4.724	120.00	7.008	178.000	C01322
21/32			5.188	131.78	7.125	180.98	C01323
	17.00		4.724	120.00	7.008	178.000	C01325
43/64			5.625	142.88	7.625	193.68	C01326
11/16			5.625	142.88	7.625	193.68	C01328
	17.50		5.118	130.00	7.520	191.00	C01329

Medidas	No. de Piezas	Código
Juego de 29 Brocas ZR FR N°429	29	C00888
Juego de Brocas ZR MIL 1mm - 13mm	25	C00943
Juego de Brocas 1/16"-1/4" x 1/64"	13	2001-5





# ▶ LISTA: 2001G BROCA JOBBER CLE-MAX



## Aplicaciones



## Características



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Milimétrica		pulg	mm	pulg	mm	
3/64	1.00		0.472	12.00	1.339	34.00	C71200
	1.10		0.551	14.00	1.417	36.00	C71202
	1.40		0.709	18.00	1.575	40.00	C71208
	1.45		0.709	18.00	1.575	40.00	C71209
	1.55		0.787	20.00	1.693	43.00	C71211
1/16	0.875		22.23		1.875	47.63	C71004
	1.60		0.787	20.00	1.693	43.00	C71212
	1.65		0.787	20.00	1.693	43.00	C71213
	1.80		0.866	22.00	1.811	46.00	C71216
	2.00		0.945	24.00	1.929	49.00	C71220
5/64	2.25		1.063	27.00	2.087	53.00	C71225
	2.30		1.063	27.00	2.087	53.00	C71226
	3/32		1.250	31.75	2.250	57.15	C71006
	2.40		1.181	30.00	2.244	57.00	C71228
	7/64		1.500	38.10	2.625	66.68	C71007
1/8	3.00		1.299	33.00	2.402	61.00	C71235
	1.625		41.28		2.750	69.85	C71008
	3.50		1.535	39.00	2.756	70.00	C71240
	9/64		1.535	39.00	2.756	70.00	C71009
	5/32		2.000	50.80	3.125	79.38	C71010
11/64	4.00		1.693	43.00	2.953	75.00	C71245
	2.125		53.98		3.250	82.55	C71011
	4.50		1.850	47.00	3.150	80.00	C71250
	4.60		1.850	47.00	3.150	80.00	C71251
	3/16		2.313	58.75	3.350	88.90	C71012
13/64	5.00		2.047	52.00	3.386	86.00	C71255
	2.438		61.93		3.625	92.08	C71013
	5.50		2.244	57.00	3.661	93.00	C71260
	7/32		2.500	61.93	3.750	95.25	C71014
	5.70		2.244	57.00	3.661	93.00	C71262
15/64	2.625		66.68		3.875	98.43	C71015
	1/4		2.750	69.85	4.000	101.60	C71016
	6.40		2.480	63.00	3.976	101.00	C71269
	17/64		2.875	73.03	4.125	104.78	C71017
	7.00		2.717	69.00	4.291	109.00	C71275
9/32	2.938		74.63		4.250	107.95	C71018
	7.40		2.717	69.00	4.291	109.00	C71279
	19/64		2.953	75.00	4.606	117.00	C71019
	7.70		2.953	75.00	4.606	117.00	C71282
	5/16		3.188	80.98	4.500	114.30	C71020
8.00		2.953	75.00	4.606	117.00	C71285	
	8.10		2.953	75.00	4.606	117.00	C71286

USO GENERAL



Diámetro		Longitud de Canal		Longitud Total		Código
Fraccional	Milimétrica	pulg	mm	pulg	mm	
21/64		3.313	84.15	4.625	117.40	C71021
	8.50	2.953	75.00	4.606	117.00	C71290
	8.70	3.189	81.00	4.921	125.00	C71292
11/32		3.438	87.33	4.750	120.65	C71022
	9.00	3.189	81.00	4.921	125.00	C71295
23/64		3.500	88.00	4.875	123.83	C71023
	9.50	3.189	81.00	4.921	125.00	C71300
3/8		3.625	92.08	5.000	127.00	C71024
25/64		3.750	95.25	5.125	130.18	C71025
	10.00	3.425	87.00	5.236	133.00	C71305
13/32		3.875	98.43	5.250	133.35	C71026
	10.50	3.425	87.00	5.236	133.00	C71308
27/64		3.938	100.03	5.375	136.53	C71027
7/16		4.063	103.20	5.500	139.70	C71028
	11.50	3.701	94.00	5.591	142.00	C71312
29/64		4.188	106.38	5.625	142.88	C71029
15/32		4.313	109.55	5.750	146.05	C71030
	12.00	3.976	101.00	5.945	151.00	C71314
	12.20	3.976	101.00	5.945	151.00	C71315
31/64		4.375	111.13	5.875	149.23	C71031
	12.50	3.976	101.00	5.945	151.00	C71316
1/2		4.500	114.30	6.000	152.40	C71032
33/64		4.813	122.25	6.625	168.28	C71033
17/32		4.813	122.25	6.625	168.28	C71034
35/64		4.813	122.25	6.625	168.28	C71035
9/16		4.813	122.25	6.625	68.28	C71036
37/64		4.813	122.25	6.625	168.28	C71037
19/32		5.188	131.78	7.125	180.98	C71038
39/64		5.188	131.78	7.125	180.98	C71039
	15.50	4.724	120.00	7.008	178.00	C71329
5/8		5.188	131.78	7.125	180.98	C71040
41/64		5.188	131.78	7.125	180.98	C71041
21/32		5.188	131.78	7.125	180.98	C71042
	17.00	4.724	120.00	7.244	184.00	C71335
43/64		5.625	142.88	7.625	193.68	C71043
11/16		5.625	142.88	7.625	193.68	C71044
	17.50	5.188	130.00	7.520	191.00	C71337

Medidas	No. de Piezas	Acabado	Código
Brocas Fracc. de 1/16 a 1/2, Alfabéticas de la A a la Z, Numéricas del No. 1 al No. 60	115	Brillante	C01330



Fabricadas en Acero alta velocidad al Vanadio para mejorar la resistencia al desgaste.

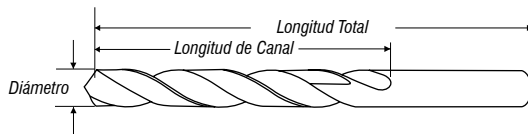
# ▶ LISTA: 2213 BROCA JOBBER DE COBALTO TRABAJO PESADO



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Código
	pulg	mm	pulg	mm	
1/64	.188	4.761	.750	19.05	C70000
1/32	.500	12.70	1.375	34.93	C70001
3/64	.750	19.05	1.750	44.45	C70002
1/16	.875	22.23	1.875	47.63	C70003
5/64	1.000	25.40	2.000	50.80	C70004
3/32	1.125	28.58	2.250	57.15	C70005
7/64	1.500	38.10	2.625	66.68	C70006
1/8	1.625	41.28	2.750	68.85	C70007
9/64	1.750	44.45	2.875	73.03	C70008
5/32	2.000	50.80	3.125	79.38	C70009
11/64	2.125	53.98	3.250	82.55	C70010
3/16	2.313	58.74	3.500	88.90	C70011
13/64	2.438	61.91	3.625	92.08	C70012
7/32	2.500	63.50	3.750	95.25	C70013
15/64	2.625	66.68	3.875	98.43	C70014
1/4	2.750	69.85	4.000	101.60	C70015
17/64	2.875	73.03	4.125	104.78	C70016
9/32	2.938	74.61	4.250	107.95	C70017
19/64	3.063	77.79	4.375	111.13	C70018
5/16	3.188	80.96	4.500	114.30	C70019
21/64	3.313	84.14	4.625	117.48	C70020
23/64	3.500	88.90	4.875	123.83	C70022
3/8	3.625	92.08	5.000	127.00	C70023
25/64	3.750	95.25	5.125	130.18	C70024
13/32	3.875	98.43	5.250	133.35	C70025
27/64	3.938	100.01	5.375	136.53	C70026
7/16	4.063	103.19	5.500	139.70	C70027
29/64	4.188	106.36	5.625	142.88	C70028
15/32	4.313	109.54	5.750	146.05	C70029
31/64	4.375	111.12	5.875	149.23	C70030
1/2	4.500	114.30	6.000	152.40	C70031

Medidas	No. de Piezas	Código
1/16 a 1/2 x 1/64	29	C70365
De la letra A a la letra Z	26	C00986
Del #1 a calibre #60	60	C70366
1/16 a 1/2 x 1/64 de la letra A a la letra Z del #1 a calibre #60	115	C70367

USO GENERAL



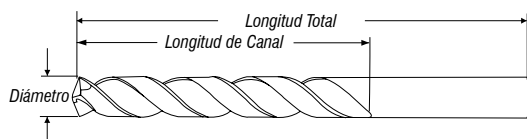
# ▶ LISTA: 8000 BROCA COTTER PIN-TOP



## Aplicaciones



## Características



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Milimétrica		pulg	mm	pulg	mm	
	1.00		0.472	12	1.339	34	C80100
	1.50		0.709	18	1.575	40	C80150
	2.00		0.945	24	1.929	49	C80200
3/32			1.181	30	2.244	57	C80002
	2.50		1.181	30	2.244	57	C80250
7/64			1.30	33	2.402	61	C80003
	3.00		1.30	33	2.402	61	C80300
1/8			1.417	36	2.559	65	C80004
	3.50		1.535	39	2.756	70	C80350
9/64			1.535	39	2.756	70	C80005
5/32			1.693	43	2.953	75	C80006
	4.00		1.693	43	2.953	75	C80400
11/64			1.850	47	3.150	80	C80007
	4.50		1.850	47	3.150	80	C80450
3/16			2.047	52	3.386	86	C80008
	5.00		2.047	52	3.386	86	C80500
13/64			2.047	52	3.386	86	C80009
	5.50		2.244	57	3.361	93	C80550
7/32			2.244	57	3.361	93	C80010
	6.00		2.244	57	3.391	93	C80600
1/4			2.480	63	3.976	101	C80012
	6.50		2.480	63	3.976	101	C80650
	7.00		2.717	69	4.291	109	C80700
9/32			2.717	69	4.291	109	C80014
	7.50		2.717	69	4.606	109	C80750
5/16			2.953	75	4.606	117	C80016
	8.00		2.953	75	4.606	117	C80800
	8.50		2.953	75	4.606	117	C80850
11/32			3.189	81	4.921	125	C80018
	9.00		3.189	81	4.921	125	C80900
	9.50		3.189	81	4.921	125	C80950
3/8			3.425	87	5.236	133	C80020
	10.00		3.425	87	5.236	133	C81000
	10.50		3.425	87	5.236	133	C81050
	11.00		3.701	94	5.591	142	C81100
7/16			3.701	94	5.591	142	C80024
	11.50		3.701	94	5.591	142	C81150
	12.00		3.976	101	5.945	151	C81200
	12.50		3.976	101	5.945	151	C81250
1/2			3.976	101	5.945	151	C80032
	13.00		3.976	101	5.945	151	C81300



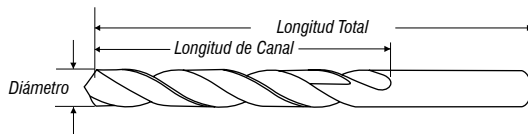
# ▶ LISTA: 2510 BROCA SERIE LARGA



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Código
	pulg	mm	pulg	mm	
3/64	1-1/8	28.58	2-1/4	57.15	C08601
1/16	1-3/4	44.45	3	76.20	C08613
5/64	2	50.80	3-1/4	95.25	C08627
3/32	2-1/4	57.15	4-1/4	107.95	C08642
7/64	2-1/2	63.50	4-5/8	117.48	C08655
1/8	2-3/4	69.85	5-1/8	130.18	C08665
9/64	3	76.20	5-3/8	136.53	C08674
5/32	3	76.20	5-3/8	136.53	C08685
11/64	3-3/8	85.73	5-3/4	146.50	C08696
3/16	3-3/8	85.73	5-3/4	146.50	C08707
13/64	3.625	92.08	6	152.40	C08718
7/32	3.625	92.08	6	152.40	C08728
15/64	3-3/4	95.25	6-1/8	155.58	C08737
1/4	3-3/4	95.25	6-1/8	155.58	C08746
17/64	3-7/8	98.43	6-1/4	158.75	C08752
9/32	3-7/8	98.43	6-1/4	158.75	C08766
19/64	4	101.60	6-3/8	161.93	C08770
5/16	4	101.60	6-3/8	161.93	C08777
21/64	4-1/8	104.78	6-1/2	165.10	C08785
11/32	4-1/8	104.78	6-1/2	165.10	C08792
23/64	4-1/4	107.95	6-3/4	171.45	C08800
3/8	4-1/4	107.95	6-3/4	171.45	C08807
25/64	4-3/8	111.13	7	177.80	C08815
13/32	4-3/8	111.13	7	177.80	C08821
27/64	4-5/8	117.48	7-1/4	184.15	C08824
7/16	4-5/8	117.48	7-1/4	184.15	C08827
29/64	4-3/4	120.65	7-1/2	190.50	C08830
15/32	4-3/4	120.65	7-1/2	190.50	C08832
31/64	4-3/4	120.65	7-3/4	196.85	C08835
1/2	4-3/4	120.65	7-3/4	196.85	C08837
33/64	4-3/4	120.65	8	203.20	C08840
17/32	4-3/4	120.65	8	203.20	C08842
35/64	4-7/8	123.83	8-1/4	209.55	C08845
9/16	4-7/8	123.83	8-1/4	209.55	C08848
37/64	4-7/8	123.83	8-3/4	222.25	C08850
19/32	4-7/8	123.83	8-3/4	222.25	C08853
39/64	4-7/8	123.83	8-3/4	225.25	C08855
5/8	4-7/8	123.83	8-3/4	225.25	C08858
41/64	5-1/8	130.18	9	228.60	C08861
21/32	5-1/8	130.18	9	228.60	C08863
43/64	5-3/8	136.53	9-1/4	234.95	C08866
11/16	5-3/8	136.53	9-1/4	234.95	C08868
45/64	5-5/8	142.88	9-1/2	241.30	C08870
23/32	5-5/8	142.88	9-1/2	241.00	C08872

USO GENERAL



Diámetro	Longitud de Canal		Longitud Total		Código
	Fraccional	pulg	mm	pulg	
47/64	5-7/8	149.23	9-3/4	247.65	C08874
3/4	5-7/8	149.23	9-3/4	247.65	C08876
49/64	6	152.40	9-7/8	250.83	C08877
25/32	6	152.40	9-7/8	250.83	C08879
51/64	6-1/8	155.58	10	254.00	C08881
13/16	6-1/8	155.58	10	254.00	C08883
53/64	6-1/8	155.58	10	254.00	C08885
27/32	6-1/8	155.58	10	254.00	C08886
7/8	6-1/8	155.58	10	254.00	C08890
57/64	6-1/8	155.58	10	254.00	C08892
29/32	6-1/8	155.58	10	254.00	C08894
59/64	6-1/8	155.58	10-3/4	273.05	C08895
15/16	6-1/8	155.58	10-3/4	273.05	C08897
61/64	6-3/8	161.93	11	279.40	C08899
31/32	6-3/8	161.93	11	279.40	C08901
63/64	6-3/8	161.93	11	279.40	C08903
1	6-3/8	161.93	11	279.40	C08904
1-1/64	6-1/2	165.10	11-1/8	282.58	C08906
1-1/32	6-1/2	165.10	11-1/8	282.58	C08908
1-3/64	6-5/8	168.28	11-1/4	285.75	C08910
1-1/16	6-5/8	168.28	11-1/4	285.75	C08911
1-1/8	7-1/8	180.98	11-3/4	298.45	C08919
1-1/4	7-7/8	200.03	12-1/2	317.50	C08933

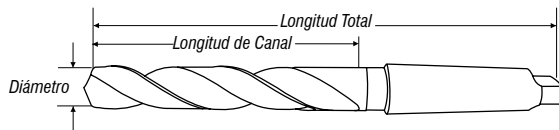
# ▶ LISTA: 2410 BROCA ZANCO CÓNICO



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Cono Morse	Código
	pulg	mm	pulg	mm		
1/8	1-7/8	47.63	5-1/8	130.18	1	C12040
5/32	2-1/8	53.98	5-3/8	136.53	1	C12052
11/64	2-1/2	63.50	5-3/4	146.05	1	C12058
3/16	2-1/2	63.50	5-3/4	146.05	1	C12064
13/64	2-3/4	69.85	6	152.40	1	C12069
7/32	2-3/4	69.85	6	152.40	1	C12075
15/64	2-7/8	73.03	6-1/8	155.58	1	C12082
1/4	2-7/8	73.03	6-1/8	155.58	1	C12091
17/64	3	76.20	6-1/4	158.75	1	C12099
9/32	3	76.20	6-1/4	158.75	1	C12113
19/64	3-1/8	79.38	6-3/8	161.93	1	C12117
5/16	3-1/8	79.38	6-3/8	161.93	1	C12124
21/64	3-1/4	82.55	6-1/2	165.10	1	C12132
11/32	3-1/4	82.55	6-1/2	165.10	1	C12139
23/64	3-1/2	88.90	6-3/4	171.45	1	C12147
3/8	3-1/2	88.90	6-3/4	171.45	1	C12154
25/64	3-5/8	92.08	7	177.80	1	C12162
13/32	3-5/8	92.08	7	177.80	1	C12167
27/64	3-7/8	98.43	7-1/4	184.15	1	C12170
7/16	3-7/8	98.43	7-1/4	184.15	1	C12173
29/64	4-1/8	104.78	7-1/2	190.50	1	C12176
15/32	4-1/8	104.78	7-1/2	190.50	1	C12178
31/64	4-3/8	111.13	8-1/4	209.55	2	C12181
1/2	4-3/8	111.13	8-1/4	209.55	2	C12183
33/64	4-5/8	117.48	8-1/2	215.90	2	C12186
17/32	4-5/8	117.48	8-1/2	215.90	2	C12188
35/64	4-7/8	123.83	8-3/4	222.25	2	C12191
9/16	4-7/8	123.83	8-3/4	222.25	2	C12194
37/64	4-7/8	123.83	8-3/4	222.25	2	C12196
19/32	4-7/8	123.83	8-3/4	222.25	2	C12199
39/64	4-7/8	123.83	8-3/4	222.25	2	C12201
5/8	4-7/8	123.83	8-3/4	222.25	2	C12204
41/64	5-1/8	130.18	9	228.60	2	C12207
21/32	5-1/8	130.18	9	228.60	2	C12209
43/64	5-3/8	136.53	9-1/4	234.95	2	C12212
11/16	5-3/8	136.53	9-1/4	234.95	2	C12214
45/64	5-5/8	142.88	9-1/2	241.30	2	C12216
23/32	5-5/8	142.88	9-1/2	241.30	2	C12218
47/64	5-7/8	149.23	9-3/4	247.65	2	C12220
3/4	5-7/8	149.23	9-3/4	247.65	2	C12222
49/64	6	152.40	9-7/8	250.83	2	C12223
25/32	6	152.40	9-7/8	250.83	2	C12225
51/64	6-1/8	155.58	10-3/4	273.05	3	C12227
13/16	6-1/8	155.58	10-3/4	273.05	3	C12229

USO GENERAL



Diámetro	Longitud de Canal		Longitud Total		Cono Morse	Código
	Fracional	pulg	mm	pulg		
53/64	6-1/8	155.58	10-3/4	273.05	3	C12231
27/32	6-1/8	155.58	10-3/4	273.05	3	C12232
55/64	6-1/8	155.58	10-3/4	273.05	3	C12234
7/8	6-1/8	155.58	10-3/4	273.05	3	C12236
57/64	6-1/8	155.58	10-3/4	273.05	3	C12238
29/32	6-1/8	155.58	10-3/4	273.05	3	C12240
59/64	6-1/8	155.58	10-3/4	273.05	3	C12241
15/16	6-1/8	155.58	10-3/4	273.05	3	C12243
61/64	6-3/8	161.93	11	279.40	3	C12245
31/32	6-3/8	161.93	11	279.40	3	C12247
63/64	6-3/8	161.93	11	279.40	3	C12249
1	6-3/8	161.93	11	279.40	3	C12250
1	6-3/8	161.93	12	304.80	4	C12684
1-1/64	6-1/2	165.10	11-1/8	282.58	3	C12252
1-1/32	6-1/2	165.10	11-1/8	282.58	3	C12254
1-3/64	6-5/8	168.28	11-1/4	285.75	3	C12256
1-1/16	6-5/8	168.28	11-1/4	285.75	3	C12257
1-5/64	6-7/8	174.63	12-1/2	317.50	4	C12259
1-3/32	6-7/8	174.63	12-1/2	317.50	4	C12261
1-7/64	7-1/8	180.98	12-3/4	323.85	4	C12263
1-1/8	7-1/8	180.98	12-3/4	323.85	4	C12265
1-9/64	7-1/4	184.15	12-7/8	327.03	4	C12266
1-5/32	7-1/4	184.15	12-7/8	327.03	4	C12268
1-11/64	7-3/8	187.33	13	330.20	4	C12270
1-3/16	7-3/8	187.33	13	330.20	4	C12272
1-13/64	7-1/2	191.50	13-1/8	333.38	4	C12274
1-7/32	7-1/2	190.50	13-1/8	333.38	4	C12275
1-15/64	7-7/8	200.03	13-1/2	342.90	4	C12277
1-1/4	7-7/8	200.03	13-1/2	342.90	4	C12279
1-17/64	8-1/2	215.90	14-1/8	358.78	4	C12281
1-9/32	8-1/2	215.90	14-1/8	358.78	4	C12283
1-19/64	8-5/8	219.08	14-1/4	361.95	4	C12284
1-5/16	8-5/8	219.08	14-1/4	361.95	4	C12286
1-21/64	8-3/4	222.25	14-3/8	365.13	4	C12288
1-11/32	8-3/4	222.25	14-3/8	365.13	4	C12290
1-23/64	8-7/8	225.43	14-1/2	368.30	4	C12292
1-3/8	8-7/8	225.43	14-1/2	368.30	4	C12293
1-25/64	9	228.60	14-5/8	371.48	4	C12295
1-13/32	9	228.60	14-5/8	371.48	4	C12297
1-27/64	9-1/8	231.78	14-3/4	374.65	4	C12299
1-7/16	9-1/8	231.78	14-3/4	374.65	4	C12301
1-29/64	9-1/4	234.95	14-7/8	377.83	4	C12302
1-15/32	9-1/4	234.95	14-7/8	377.83	4	C12304
1-31/64	9-3/8	238.15	15	381.00	4	C12306
1-1/2	9-3/8	238.15	15	381.00	4	C12308
1-17/32	9-3/8	238.15	16-3/8	422.28	5	C12311
1-9/16	9-7/8	244.48	16-5/8	422.28	5	C12315
1-19/32	9-7/8	244.48	16-5/8	422.28	5	C12318
1-5/8	10	254.00	17	431.80	5	C12322
1-21/32	10	254.00	17-1/8	431.80	5	C12326
1-11/16	10-1/8	257.18	17-1/8	434.98	5	C12329
1-23/32	10-1/8	257.18	17-1/8	434.98	5	C12333
1-3/4	10-1/8	257.18	17-1/8	434.98	5	C12336
1-25/32	10-1/8	257.18	17-1/8	434.98	5	C12340
1-13/16	10-1/8	257.18	17-1/8	434.98	5	C12344
1-27/32	10-1/8	257.18	17-1/8	434.98	5	C12347
1-7/8	10-3/8	263.53	17-3/8	441.33	5	C12351
1-29/32	10-3/8	263.53	17-3/8	441.33	5	C12354
1-15/16	10-3/8	263.53	17-3/8	441.33	5	C12358
1-31/32	10-3/8	263.53	17-3/8	441.33	5	C12362
2	10-3/8	263.53	17-3/8	441.33	5	C12365
2-1/32	10-3/8	263.53	17-3/8	441.33	5	C12368
2-1/16	10-1/4	263.53	17-3/8	441.33	5	C12371
2-3/32	10-1/4	263.53	17-3/8	441.33	5	C12374



Diámetro Fraccional	Longitud de Canal		Longitud Total		Cono Morse	Código
	pulg	mm	pulg	mm		
2-1/8	10-1/4	263.53	17-3/8	441.33	5	C12376
2-5/32	10-1/4	263.53	17-3/8	441.33	5	C12379
2-3/16	10-1/4	257.18	17-3/8	441.33	5	C12382
2-7/32	10-1/8	257.18	17-3/8	441.33	5	C12385
2-1/4	10-1/8	257.18	17-3/8	441.33	5	C12388
2-5/16	10-1/8	257.18	17-3/8	441.33	5	C12393
2-3/8	10-1/8	285.75	17-3/8	476.25	5	C12399
2-7/16	11-1/4	285.75	18-3/4	476.25	5	C12404
2-1/2	11-1/4	285.75	18-3/4	476.25	5	C12410
2-9/16	11-7/8	285.75	19-1/2	476.25	5	C12416
2-5/8	11-7/8	285.75	19-1/2	476.25	5	C12421
2-11/16	12-3/4	285.75	20-3/8	476.25	5	C12427
2-3/4	12-3/4	285.75	20-3/8	476.25	5	C12432
2-7/8	13-3/8	285.75	21-1/8	476.25	5	C12444
2-15/16	14	285.75	21-3/4	476.25	5	C12449
3	14	285.75	21-3/4	476.25	5	C12455
3-1/8	14-5/8	374.65	24-1/2	622.30	6	C12460
3-1/4	15-1/2	396.88	25-1/2	647.70	6	C12462
3-3/8	15-1/2	393.70	25-1/2	647.70	6	C12465
3-1/2	16-3/8	415.93	26-1/2	673.10	6	C12468

 Ver página 192 para Información Técnica.

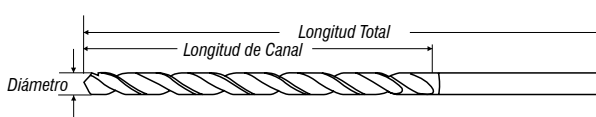
# ▶ LISTA: 950E BROCA EXTRA LARGA



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Código
	pulg	mm	pulg	mm	
3/32	5-1/2	139.70	8	203.20	C09655
7/64	5-1/2	139.70	8	203.20	C09656
1/8	5-1/2	139.70	8	203.20	C09657
1/8	7-1/2	190.50	10	254.00	C09707
1/8	9	228.60	12	304.80	C09736
9/64	5-1/2	139.70	8	203.20	C09658
5/32	5-1/2	139.70	8	203.20	C09659
5/32	7-1/2	190.50	10	254.00	C09709
5/32	9	228.60	12	304.80	C09738
11/64	5-1/2	139.70	8	203.20	C09660
3/16	5-1/2	139.70	8	203.20	C09661
3/16	7-1/2	190.50	10	254.00	C09711
3/16	9	228.60	12	304.80	C09740
13/64	5-1/2	139.70	8	203.20	C09662
7/32	5-1/2	139.70	8	203.20	C09663
7/32	7-1/2	190.50	10	254.00	C09713
7/32	9	228.60	12	304.80	C09742
15/64	5-1/2	139.70	8	203.20	C09664
15/64	7-1/2	190.50	10	254.00	C09714
1/4	5-1/2	139.70	8	203.20	C09665
1/4	7-1/2	190.50	10	254.00	C09715
1/4	9	228.60	12	304.80	C09744
17/64	5-1/2	139.70	8	203.20	C09666
9/32	5-1/2	139.70	8	203.20	C09667
9/32	9	228.60	12	304.80	C09746
19/64	5-1/2	139.70	8	203.20	C09668
5/16	5-1/2	139.70	8	203.20	C09669
5/16	7-1/2	190.50	10	254.00	C09719
5/16	9	228.60	12	304.80	C09748
21/64	5-1/2	139.70	8	203.20	C09670
11/32	5-1/2	139.70	8	203.20	C09671
11/32	7-1/2	190.50	10	254.00	C09721
11/32	9	228.60	12	304.80	C09750
23/64	5-1/2	139.70	8	203.20	C09672
3/8	5-1/2	139.70	8	203.20	C09673
3/8	7-1/2	190.50	10	254.00	C09723
3/8	9	228.60	12	304.80	C09752
25/64	5-1/2	139.70	8	203.20	C09674
13/32	5-1/2	139.70	8	203.20	C09675
13/32	7-1/2	190.50	10	254.00	C09725
27/64	5-1/2	139.70	8	203.20	C09676
7/16	5-1/2	139.70	8	203.20	C09677
7/16	7-1/2	190.50	10	254.00	C09727
7/16	9	228.60	12	304.80	C09756



Diámetro	Longitud de Canal		Longitud Total		Código
	Fraccional	pulg	mm	pulg	
29/64	5-1/2	139.70	8	203.20	C09678
15/32	5-1/2	139.70	8	203.20	C09679
15/32	7-1/2	190.50	10	254.00	C09729
15/32	9	228.60	12	304.80	C09758
31/64	5-1/2	139.70	8	203.20	C09680
1/2	5-1/2	139.70	8	203.20	C09681
1/2	7-1/2	190.50	10	254.00	C09731
1/2	9	228.60	12	304.80	C09760
17/32	7-1/2	190.50	10	254.00	C09733
17/32	9	228.60	12	304.80	C09762
9/16	7-1/2	190.50	10	254.00	C09735
9/16	9	228.60	12	304.80	C09764
5/8	9	228.60	12	304.80	C09768
21/32	9	228.60	12	304.80	C09770
11/16	9	228.60	12	304.80	C09772
23/32	9	228.60	12	304.80	C09774
3/4	9	228.60	12	304.80	C09776

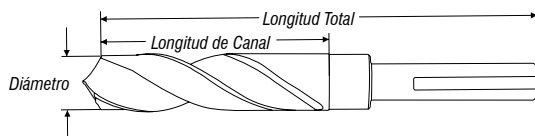
# ▶ LISTA: 936 BROCA ZANCO REDUCIDO A 1/2"



## Aplicaciones



## Características



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Milimétrica	Decimal	pulg	mm	pulg	mm	
1/2	12.50	.4921	3-1/8	79.38	6	152.4	C113125
	13.00	.5118	3-1/8	79.38	6	152.40	C11159
3-1/8			79.38	6	152.4	C113130	
33/64	13.50	.5315	3-1/8	79.38	6	152.4	C11162
17/32			3-1/8	79.38	6	152.4	C11164
35/64	14.00	.5512	3-1/8	79.38	6	152.4	C113135
9/16	14.50	.5709	3-1/8	79.38	6	152.4	C113140
			3-1/8	79.38	6	152.4	C11170
37/64	15.00	.5906	3-1/8	79.38	6	152.4	C113145
19/32	15.50	.6102	3-1/8	79.38	6	152.4	C11172
			3-1/8	79.38	6	152.4	C113150
39/64	16.00	.6299	3-1/8	79.38	6	152.4	C11175
5/8	16.50	.6496	3-1/8	79.38	6	152.4	C11177
			3-1/8	79.38	6	152.4	C113155
41/64	17.00	.6693	3-1/8	79.38	6	152.4	C11180
21/32	17.50	.6890	3-1/8	79.38	6	152.4	C11183
			3-1/8	79.38	6	152.4	C113165
43/64	18.00	.7087	3-1/8	79.38	6	152.4	C11185
11/16	18.50	.7283	3-1/8	79.38	6	152.4	C113170
45/64	19.00	.7480	3-1/8	79.38	6	152.4	C11188
			3-1/8	79.38	6	152.4	C11190
47/64	19.50	.7677	3-1/8	79.38	6	152.4	C11199
3/4	20.00	.7874	3	79.38	6	152.4	C113175
			3	73.50	6	152.4	C11192
49/64	20.50	.8071	3	76.19	6	152.4	C113180
25/32	21.00	.8268	3	73.50	6	152.4	C113185
			3	76.19	6	152.4	C11194
13/16	21.50	.8465	3	73.50	6	152.4	C113190
			3	76.19	6	152.4	C11196
27/32	22.00	.8661	3	73.50	6	152.4	C113205
			3	76.19	6	152.4	C11205
7/8	22.50	.8858	3	73.50	6	152.4	C113210
			3	76.19	6	152.4	C11208
	23.00	.9055	3	73.50	6	152.4	C113215
			3	76.19	6	152.4	C113220
			3	73.50	6	152.4	C11212
			3	73.50	6	152.4	C113225
			3	73.50	6	152.4	C113230



Fraccional	Diámetro		Longitud de Canal		Longitud Total		Código
	Milimétrica	Decimal	pulg	mm	pulg	mm	
29/32			3	76.19	6	152.4	C11216
	23.50	.9252	3	73.50	6	152.4	C113235
15/16			3	76.19	6	152.4	C11219
	24.00	.9449	3	73.50	6	152.4	C113240
	24.50	.9646	3	73.50	6	152.4	C113245
31/32			3	76.19	6	152.4	C11223
	25.00	.9843	3	73.50	6	152.4	C113250
1			3	76.19	6	152.4	C11226
	25.50	1.0039	3	73.50	6	152.4	C113255
	26.00	1.0236	3	73.50	6	152.4	C113260
1-1/32			3	76.19	6	152.4	C11230
	26.50	1.0433	3	73.50	6	152.4	C113265
1-1/16			3	76.19	6	152.4	C11233
	27.0	1.0630	3	73.50	6	152.4	C113270
	27.50	1.0837	3	73.50	6	152.4	C113275
1-3/32			3	73.50	6	152.4	C11237
	28.00	1.1024	3	73.50	6	152.4	C113280
	28.50	1.1220	3	73.50	6	152.4	C113285
1-1/8			3	76.19	6	152.4	C11241
	29.0	1.1417	3	73.50	6	152.4	C113290
1-5/32			3	73.50	6	152.4	C11245
	29.5	1.1614	3	73.50	6	152.4	C113295
	30.0	1.1811	3	73.50	6	152.4	C113300
1-3/16			3	76.19	6	152.4	C11248
	30.5	1.2008	3	73.50	6	152.4	C113305
1-7/32			3	76.19	6	152.4	C11252
	31.0	1.2205	3	73.50	6	152.4	C113310
	31.5	1.2402	3	73.50	6	152.4	C113315
1-1/4			3	76.19	6	152.4	C11255
	32.0	1.2598	3	73.50	6	152.4	C113320
	32.5	1.2795	3	73.50	6	152.4	C113325
	33.0	1.2992	3	73.50	6	152.4	C113330
	33.5	1.3189	3	73.50	6	152.4	C113335
	34.0	1.3386	3	73.50	6	152.4	C113340
	34.5	1.3583	3	73.50	6	152.4	C113345
	35.0	1.3780	3	73.50	6	152.4	C113350
	35.5	1.3976	3	73.50	6	152.4	C113355
	36.0	1.4173	3	73.50	6	152.4	C113360
	36.5	1.4370	3	73.50	6	152.4	C113365
	37.0	1.4567	3	73.50	6	152.4	C113370
	37.5	1.4764	3	73.50	6	152.4	C113375
	38.0	1.4961	3	73.50	6	152.4	C113380

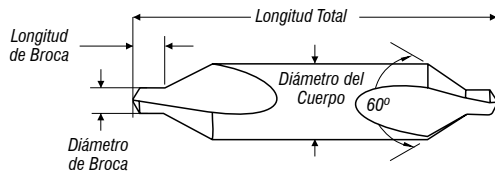
# ▶ LISTA: 998 BROCA PARA CENTRO TIPO PLANA



## Aplicaciones

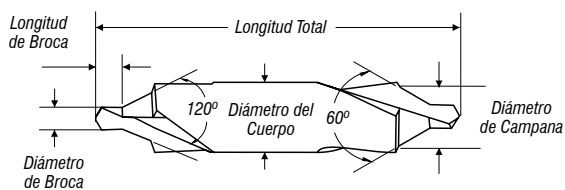


## Características



Diámetro Númerica	Diámetro de Broca		Diámetro del Cuerpo		Longitud de Broca		Longitud Total		Código
	pulg	mm	pulg	mm	pulg	mm	pulg	mm	
#00	.025		3/32	2.38	.030	0.76	1-1/8	28.58	C46261
#0	1/32		3/32	2.38	.038	0.97	1-1/8	28.58	C46262
#1	3/64		1/8	3.18	3/64	1.19	1-1/4	31.75	C46263
#2	5/64		3/16	4.76	1/16	1.98	1-7/8	47.63	C46264
#3	7/64		1/4	6.35	3/32	2.78	2	50.80	C46265
#4	1/8		5/16	7.94	7/64	3.18	2-1/8	53.98	C46266
#5	3/16		7/16	11.11	5/32	4.76	2-3/4	69.85	C46267
#6	7/32		1/2	12.70	3/16	5.56	3	76.20	C46268
#7	1/4		5/8	15.88	7/32	6.35	3-1/4	82.55	C46269
#8	5/16		3/4	19.05	1/4	7.94	3-1/2	88.90	C46270

# ▶ LISTA: 996 BROCA PARA CENTRO TIPO CAMPANA

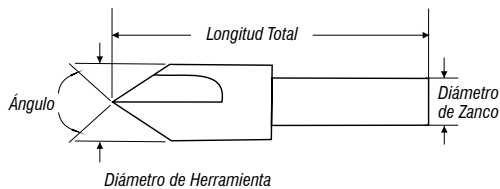


Diámetro Númerica	Diámetro de Broca		Diámetro del Cuerpo		Longitud de Broca		Longitud Total		Diámetro Campana		Código
	pulg	mm	pulg	mm	pulg	mm	pulg	mm	pulg	mm	
#11	3/64		1/8	3.18	3/64	1.19	1-1/4	31.75	.100	2.54	C46272
#12	1/16		3/16	4.76	1/16	1.59	1-7/8	47.63	.150	3.81	C46273
#13	3/32		1/4	6.35	3/32	2.38	2	50.80	.200	5.08	C46274
#14	7/64		5/16	7.94	7/64	2.78	2-1/8	53.98	.250	6.35	C46275
#15	5/32		7/16	11.11	5/32	3.97	2-3/4	69.85	.350	8.89	C46276
#16	3/16		1/2	12.70	3/16	4.76	3	76.20	.400	10.16	C46277
#17	7/32		5/8	15.88	7/32	5.56	3-1/4	82.55	.500	12.70	C46278
#18	1/4		3/4	19.05	1/4	6.35	3-1/2	88.90	.600	15.24	C46279

# ▶ LISTA: 610 AVELLANADOR



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud Total		Canales	Ángulo de 60°	Ángulo de 82°	Ángulo de 90°	Ángulo de 120°
	pulg	mm	pulg	mm					
1/4	3/16	4.76	1-1/2	38.10	1		C46102	C46103	C46106
1/4	3/16	4.76	1-1/2	38.10	3	C46150	C46151	C46152	C46155
1/4	3/16	4.76	1-1/2	38.10	4	C46198	C46199	C46200	-
3/8	1/4	6.35	1-3/4	44.45	1	C46107	C46108	C46109	C46112
3/8	1/4	6.35	1-3/4	44.45	3	C46156	C46157	C46158	C46161
3/8	1/4	6.35	1-3/4	44.45	4	C46204	C46205	C46206	-
1/2	1/4	6.35	2	50.80	1	C46113	C46114	C46115	C46118
1/2	1/4	6.35	2	50.80	3	C46162	C46163	C46164	C46167
1/2	1/4	6.35	2	50.80	4	C46210	C46211	C46212	-
5/8	3/8	9.53	2-1/4	57.15	1	C46119	C46120	C46121	C46123
5/8	3/8	9.53	2-1/4	57.15	3	C46168	C46169	C46170	C46173
5/8	3/8	9.53	2-1/4	57.15	4	C46216	C46217	C46218	-
3/4	3/8	12.70	2-5/8	66.68	1	C46124	C46125	C46126	C46129
3/4	3/8	12.70	2-5/8	66.68	3	C46174	C46175	C46176	C46179
3/4	1/2	12.70	2-5/8	66.68	4	C46222	C46223	C46224	-
1	1/2	12.70	3-1/8	79.38	1	C46130	C46131	C46132	C46135
1	1/2	12.70	3-1/8	79.38	3	C46180	C46181	C46182	C46185
1-1/4	1/2	12.70	3-31/32	100.81	1	C46136	C46137	C46138	-
1-1/4	1/2	12.70	3-31/32	100.81	3	C46186	C46187	C46188	-
1-1/2	1/2	19.05	4-5/16	109.54	1	C46141	C46139	-	-
1-1/2	1/2	19.05	3-3/4	95.25	1	-	-	C46140	-
1-1/2	3/4	19.05	4-5/16	109.54	3	C46189	C46190	-	-
1-1/2	3/4	19.05	3-3/4	95.25	3	-	-	C46191	-
2	1/2	19.05	5	127.00	1	C46142	-	-	-
2	1/2	19.05	4-1/4	107.95	1	-	C46143	-	-
2	1/2	19.05	5	127.00	3	-	-	C46192	-



El barreno no debera ser menor del 10% del diametro del avellanador.  
Usar a un 50% -66% de las velocidades recomendadas para brocas.

USO GENERAL



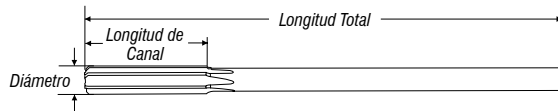
# ▶ LISTA: 4001 RIMA PARA MÁQUINA



## Aplicaciones



## Características



Diámetro		Longitud de Canal		Longitud Total		Canales	Código
Fracional	Milimétrica	pulg	mm	pulg	mm		
1/16	1.5	1/2	12.70	2-1/2	63.50	4	C25059
		1/2	12.70	2-1/2	63.50	4	C25060
	2.0	3/4	19.05	3	76.20	4	C25095
3/32		3/4	19.05	3	76.20	4	C25140
7/64		7/8	22.23	3-1/2	88.90	4	C25178
	3.0	7/8	22.23	3-1/2	88.90	4	C25185
1/8		7/8	22.23	3-1/2	88.90	6	C25216
5/32		1	25.40	4	101.60	6	C25290
	4.0	1	25.40	4	101.60	6	C25291
3/16		1-1/8	28.58	4-1/2	114.30	6	C25366
	5.0	1-1/4	31.75	5	127.00	6	C25314
7/32		1-1/4	31.75	5	127.00	6	C25438
	6.0	1-1/2	38.10	6	152.40	6	C25475
1/4		1-1/2	38.10	6	152.40	6	C25513
	7.0	1-1/2	38.10	6	152.40	6	C25567
9/32		1-1/2	38.10	6	152.40	6	C25608
5/16		1-1/2	38.10	6	152.40	6	C25661
	8.0	1-1/2	38.10	6	152.40	6	C25668
11/32		1-1/2	38.10	6	152.40	6	C25733
	9.0	1-3/4	44.45	7	177.80	6	C25743
3/8		1-3/4	44.45	7	177.80	6	C25807
25/64		1-3/4	44.45	7	177.80	6	C25844
	10.0	1.750	44.45	7	177.80	6	C25845
13/32		1-3/4	44.45	7	177.80	6	C25878
	11.0	1.750	44.45	7	177.80	6	C25912
7/16		1-3/4	44.45	7	177.80	6	C25947
15/32		1-3/4	44.45	7	177.80	6	C26014
	12.0	1-3/4	44.45	7	177.80	6	C26015
1/2		2	50.80	8	203.20	6	C26083
	13.0	2	50.80	8	203.20	8	C26086
17/32		2	50.80	8	203.20	8	C26150
	14.0	2	50.80	8	203.20	8	C26151
9/16		2	50.80	8	203.20	8	C26217
	15.0	2	50.80	8	203.20	8	C26218
19/32		2	50.80	8	203.20	8	C26284
5/8		2-1/2	57.15	9	228.60	8	C26351
	16.0	2-1/4	57.15	9	228.60	8	C26352
11/16		2-1/4	57.15	9	228.60	8	C26485
3/4		2-1/4	63.50	9-1/2	241.30	8	C26615
13/16		2-1/4	63.50	9-1/2	241.30	8	C26746
7/8		2-5/8	66.68	10	254.00	8	C26876
1		2-3/4	69.85	10-1/2	266.70	8	C27137
1-8		2-7/8	73.03	11	279.40	10	C27152
1-1/4		3	76.20	11-1/2	292.10	10	C27166
1-3/8		2-1/4	82.55	12	304.80	10	C27180





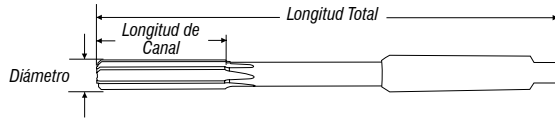
# ▶ LISTA: 4005 RIMA ZANCO CÓNICO



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Longitud Total		Cono Morse	Canales	Código
	pulg	mm	pulg	mm			
3/8	1-3/4	44.45	7	177.80	1	6	C34129
7/16	1-3/4	44.45	7	177.80	1	6	C34266
9/16	2	50.80	8	203.20	1	8	C34534
5/8	2-1/4	57.15	9	228.60	2	8	C34668
11/16	2-1/4	57.15	9	228.60	2	8	C34802
3/4	2-1/2	63.50	9-1/2	241.31	2	8	C34932
25/32	2-1/2	63.50	9-1/2	241.31	2	8	C34997
7/8	2-5/8	66.68	10	254.00	2	8	C35193
1	2-3/4	69.85	10-1/2	266.70	3	8	C35454
1-1/8	2-7/8	73.03	11	279.40	3	10	C35469
1-1/4	3	76.20	11-1/2	292.10	4	10	C35483



**TIP:**  
Las rimas de canales rectos se recomiendan para aplicaciones de barrenos pasados.

USO GENERAL

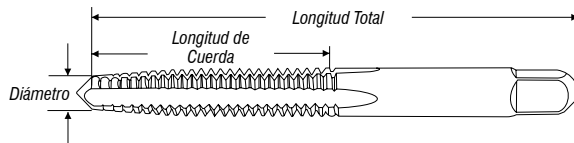
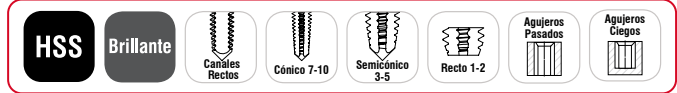
# LISTA: 1001, 1002, 1003 & 1004, MACHUELOS HSS



## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud de Cuerda		Longitud Total		Canales	Cónico	Semi-cónico	Recto	Set
			pulg	mm	pulg	mm					
0	NF-80	H1	5/16	7.94	1-5/8	41.28	2	C54025	C54026	C54027	C54028
1	NC-64	H1	3/8	9.53	1-11/16	42.86	2	C54055	C54056	C54057	C54058
1	NF-72	H1	3/8	9.53	1-11/16	42.88	2	C54060	C54061	C54062	C54063
2	NC-56	H2	3/8	9.53	1-3/4	44.45	3	C54089	C54090	C54091	C54092
2	NF-64	H2	7/16	11.11	1-3/4	44.45	3	C54093	C54094	C54095	C54096
3	NC-48	H2	1/2	12.70	1-13/16	46.04	3	C54115	C54116	C54117	C54118
3	NF-56	H2	1/2	12.70	1-13/16	46.04	3	C54120	C54121	C54122	C54123
4	NS-36	H2	9/16	14.30	1-7/8	47.63	3	C54139	C54140	C54141	C54137
4	NC-40	H2	9/16	14.30	1-7/8	47.63	3	C54149	C54150	C54151	C54152
4	NF-48	H2	9/16	14.30	1-7/8	47.63	3	C54153	C54154	C54155	C54156
5	NC-40	H2	5/8	15.88	1-15/16	49.21	3	C54188	C54189	C54190	C54191
5	NF-44	H2	5/8	15.88	1-15/16	49.21	3	C54192	C54193	C54194	C54195
6	NC-32	H3	11/16	17.46	2	50.80	3	C54223	C54224	C54225	C54226
6	NF-40	H2	11/16	17.46	2	50.80	3	C54232	C54233	C54234	C54235
8	NC-32	H3	3/4	19.05	2-1/8	53.98	4	C54277	C54278	C54279	C54280
8	NF-36	H2	3/4	19.05	2-1/8	53.98	4	C54289	C54290	C54291	C54292
10	NC-24	H3	7/8	22.23	2-3/8	60.33	4	C54329	C54330	C54331	C54332
10	NF-32	H3	7/8	22.23	2-3/8	60.33	4	C54356	C54357	C54358	C54359
12	NC-24	H3	15/16	23.81	2-3/8	60.33	4	C54385	C54386	C54387	C54388
12	NF-28	H3	15/16	23.81	2-3/8	60.33	4	C54389	C54390	C54391	C54392
1/8	NS-40	H2	5/8	15.88	1-15/16	49.21	3	1001-04402	1002-04402	1003-04402	1123-04402
1/8	NF-44	H2	5/8	15.88	1-15/16	49.21	3	1001-04442	1002-04442	1003-04442	1123-04442
5/32	NS-32	H3	3/4	19.05	2-1/8	53.98	4	1001-05323	1002-05323	1003-05323	1123-05323
5/32	NS-36	H2	3/4	19.05	2-1/8	53.98	4	1001-05362	1002-05362	1003-05362	1123-05362
3/16	NC-24	H3	7/8	22.22	2-3/8	60.33	4	1001-06243	1002-06243	1003-06243	1123-06243
3/16	NS-32	H3	7/8	22.22	2-3/8	60.33	4	1001-06323	1002-06323	1003-06323	1123-06323
7/32	NS-24	H3	15/16	23.81	2-3/8	60.33	4	1001-07243	1002-07243	1003-07243	1123-07243
7/32	NS-32	H3	15/16	23.81	2-3/8	60.33	4	1001-07323	1002-07323	1003-07323	1123-07323
1/4	NC-20	H3	1	25.40	2-1/2	63.50	4	C54453	C54454	C54455	C54460
1/4	NF-28	H3	1	25.40	2-1/2	63.50	4	C54469	C54470	C54471	C54476
5/16	NC-18	H3	1-1/8	28.58	2-23/32	69.06	4	C54504	C54505	C54506	C54511
5/16	NF-24	H3	1-1/8	28.58	2-23/32	69.06	4	C54518	C54519	C54520	C54523
3/8	NC-16	H3	1.250	31.75	2.938	74.61	4	C54582	C54583	C54584	C54587
3/8	NF-24	H3	1.250	31.75	2.938	74.61	4	C54595	C54596	C54597	C54600
7/16	NC-14	H3	1.438	36.51	3.156	80.17	4	C54652	C54653	C54654	C54656



Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud de Cuerda		Longitud Total		Canales	Cónico	Semi-cónico	Recto	Set
			pulg	mm	pulg	mm					
7/16	NF-20	H3	1.438	36.51	3.156	80.17	4	C54661	C54662	C54663	C54665
1/2	NC-13	H3	1.656	42.06	3.375	85.73	4	C54726	C54727	C54728	C54731
1/2	NF-20	H3	1.656	42.06	3.375	85.73	4	C54737	C54738	C54739	C54741
9/16	NC-12	H3	1.656	42.07	3.594	91.28	4	C54759	C54760	C54761	C54762
9/16	NF-18	H3	1.656	42.07	3.594	91.28	4	C54765	C54766	C54767	C54768
5/8	NC-11	H3	1.813	46.04	3.813	96.84	4	C54779	C54780	C54781	C54782
5/8	NF-18	H3	1.813	46.04	3.813	96.84	4	C54787	C54788	C54789	C54790
11/16	NC-11	H3	1.813	46.04	4.031	102.39	4	C54813	C54814	C54815	C54816
11/16	NF-16	H3	2.000	46.04	4.031	102.39	4	C54817	C54818	C54819	C54820
3/4	NC-10	H3	2.000	50.80	4.250	107.95	4	C54838	C54839	C54840	C54841
3/4	NF-16	H3	2.019	50.80	4.250	107.95	4	C54846	C54847	C54848	C54849
7/8	NC-9	H4	2.219	56.36	4.688	119.06	4	C54884	C54885	C54886	C54887
7/8	NF-14	H4	2.500	56.36	4.688	119.06	4	C54890	C54891	C54892	C54893
1	NC-8	H4	2.500	63.50	5.125	130.18	4	C54923	C54924	C54925	C54926
1	NF-12	H4	2.500	63.50	5.125	130.18	4	C54928	C54929	C54930	C54931
1	NS-14	H4	2.563	63.50	5.125	130.18	4	C54933	C54934	C54935	C54936
1-1/8	NC-7	H4	2.563	65.09	5.438	138.11	4	C54965	C54966	C54967	1123-36074
1-1/8	NF-12	H4	2.563	65.09	5.438	138.11	4	C54971	C54972	C54973	1123-36124
1-1/4	NC-7	H4	2.563	65.09	5.750	146.05	4	C54994	C54995	C54996	1123-40074
1-1/4	NF-12	H4	2.563	65.09	5.750	146.05	6	C55000	C55001	C55002	1123-40124
1-3/8	NC-6	H4	2.563	65.09	5.750	146.05	4	C55027	C55028	C55029	1123-44064
1-3/8	NF-12	H4	2.563	65.09	5.750	146.05	6	C55030	C55031	C55032	1123-44124
1-1/2	NC-6	H4	3.000	76.20	6.375	161.93	4	C55057	C55058	C55059	1123-48064
1-1/2	NF-12	H4	3.000	76.20	6.375	161.93	6	C55063	C55064	C55065	1123-48124

Diámetro Milimétrica	Paso	Ajuste	Longitud de Cuerda		Longitud Total		Canales	Cónico	Semi-cónico	Recto	Set
			pulg	mm	pulg	mm					
M2	0.40	D3	7/16	11.11	1-3/4	44.45	3	C54073	C54074	C54075	-
M2.5	0.45	D3	1/2	12.70	1-13/16	46.04	3	C54131	C54132	C54133	-
M3	0.50	D3	5/8	15.88	1-15/16	49.21	3	C54164	C54165	C54166	1123-030503M
M3.5	0.60	D4	11/16	17.46	2	50.8	3	C54203	C54204	C54205	-
M4	0.70	D4	3/4	19.05	2-1/8	53.98	4	C54246	C54247	C54248	1123-040704M
M4.5	0.75	D4	7/8	22.23	2-3/8	60.33	4	C54303	C54304	C54305	-
M5	0.80	D4	7/8	22.23	2-3/8	60.33	4	C54374	C54375	C54376	1123-050804M
M6	0.75	D5	1	25.40	2-1/2	63.5	4	1001-060755M	1002-060755M	1003-060755M	1123-060755M
M6	1.00	D5	1	25.40	2-1/2	63.5	4	C54413	C54414	C54415	1123-061005M
M7	1.00	D5	1-1/8	28.58	2-23/32	69.06	4	C54489	C54490	C54491	1123-071005M
M8	0.75	D5	1-1/8	28.58	2-23/32	69.06	4	1001-080755M	1002-080755M	1003-080755M	1123-080755M
M8	1.00	D5	1-1/8	28.58	2-23/32	69.06	4	C54536	C54537	C54538	1123-081005M
M8	1.25	D5	1-1/8	28.58	2-23/32	69.06	4	C54546	C54547	C54548	1123-081255M
M9	1.25	D5	1-1/4	31.75	2-15/16	74.61	4	1001-091255M	1002-091255M	1003-091255M	1123-091255M
M10	0.75	D5	1-1/4	31.75	2-15/16	74.61	4	1001-100755M	1002-100755M	1003-100755M	1123-100755M
M10	1.00	D5	1-1/4	31.75	2-15/16	74.61	4	1001-101005M	1002-101005M	1003-101005M	1123-101005M
M10	1.25	D5	1-1/4	31.75	2-15/16	74.61	4	C54617	C54618	C54619	1123-101255M
M10	1.50	D6	1-1/4	31.75	2-15/16	74.61	4	C54624	C54625	C54626	1123-101506M
M11	1.50	D6	1-7/16	36.51	3-5/32	80.16	4	1001-111506M	1002-111506M	1003-111506M	1123-111506M
M12	1.00	D6	1-21/32	42.07	3-3/8	85.73	4	1001-121006M	1002-121006M	1003-121006M	1123-121006M
M12	1.25	D5	1-21/32	42.07	3-3/8	85.73	4	C54675	C54676	C54677	1123-121255M
M12	1.50	D6	1-21/32	42.07	3-3/8	85.73	4	1001-121506M	1002-121506M	1003-121506M	1123-121506M
M12	1.75	D6	1-21/32	42.07	3-3/8	85.73	4	C54689	C54690	C54691	1123-121756M
M14	1.00	D6	1-21/32	42.07	3-19/32	91.28	4	1001-141006M	1002-141006M	1003-141006M	1123-141006M
M14	1.25	D6	1-21/32	42.07	3-19/32	91.28	4	1001-141256M	1002-141256M	1003-141256M	1123-141256M
M14	1.50	D6	1-21/32	42.07	3-19/32	91.28	4	C54751	C54752	C54753	1123-141506M
M14	2.00	D7	1-21/32	42.07	3-19/32	91.28	4	C54755	C54756	C54757	1123-142007M
M16	1.00	D6	1-13/16	46.06	3-13/16	96.84	4	1001-161006M	1002-161006M	1003-161006M	1123-161006M
M16	1.50	D6	1-13/16	46.06	3-13/16	96.84	4	C54797	C54798	C54799	1123-161506M
M16	2.00	D7	1-13/16	46.06	3-13/16	96.84	4	C54801	C54802	C54803	1123-162007M
M18	1.50	D6	1-13/16	46.04	4-1/32	102.39	4	C54825	C54826	C54827	1123-181506M

Diámetro Milimétrica	Paso	Ajuste	Longitud de Cuerda		Longitud Total		Canales	Cónico	Semi-cónico	Recto	Set
			pulg	mm	pulg	mm					
M18	2.5	D7	1-13/16	46.04	4-1/32	102.39	4	C54833	C54834	C54835	-
M20	1.5	D6	2	50.8	4-15/32	113.51	4	C54856	C54857	C54858	1123-201506M
M20	2.5	D7	2	50.8	4-15/32	113.51	4	C54864	C54865	C54866	1123-202507M
M22	1.5	D6	2-7/32	56.36	4-11/16	119.06	4	C54872	C54873	C54874	1123-221506M
M22	2.5	D7	2-7/32	56.36	4-11/16	119.06	4	C54880	C54881	C54882	-
M24	2	D7	2-7/32	56.36	4-29/32	124.62	4	C54903	C54904	C54905	-
M24	3	D8	2-7/32	56.36	4-29/32	124.62	4	C54907	C54908	C54909	-
M27	2	D7	2-1/2	65.5	5-1/8	130.18	4	C54949	C54950	C54951	-
M27	3	D8	2-1/2	63.5	5-1/8	130.18	4	C54953	C54954	C54955	-
M30	2	D7	2-9/16	65.09	5-7/16	138.11	4	C54982	C54983	C54984	-
M30	3.5	D9	2-9/16	65.09	5-7/16	138.11	4	C54990	C54991	C54992	-
M33	2	D7	2-9/16	65.09	5-3/4	146.05	6	C55015	C55016	C55017	-
M33	3.5	D9	2-9/16	65.09	5-3/4	146.05	4	C55023	C55024	C55025	-
M36	3	D8	3	76.2	6-1/16	153.99	4	C55045	C55046	C55047	-
M36	4	D9	3	76.2	6-1/16	153.99	4	C55049	C55050	C55051	-
M39	3	D8	3-3/16	80.96	6-11/16	169.86	6	C55074	C55075	C55076	-
M39	4	D9	3-3/16	80.96	6-11/16	169.86	6	C55078	C55079	C55080	-

Nota: Set de 3 piezas; un cónico, un semi cónico y un recto.

 Ver página 205 para Información Técnica.

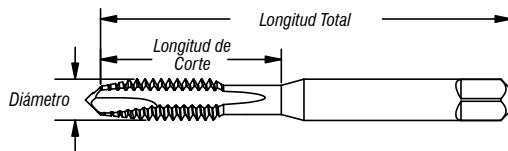
# ▶ LISTA: 1053 MACHUELO PUNTA ESPIRAL



## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud de Cuerda		Longitud Total		Canales	Código
			pulg	mm	pulg	mm		
4	NC-40	H2	9/16	14.29	1-7/8	47.63	2	C57324
5	NC-40	H2	5/8	15.88	1-15/16	49.21	2	C57338
6	NC-32	H3	11/16	17.46	2	50.80	2	C57348
8	NC-32	H3	3/4	19.05	2-1/8	53.98	2	C57361
10	NC-24	H3	7/8	22.23	2-3/8	60.33	2	C57373
10	NF-32	H3	7/8	22.23	2-3/8	60.33	2	C57380
12	NC-24	H3	15/16	23.81	2-3/8	60.33	2	C57388
1/4	NC-20	H3	1	25.40	2-1/2	63.50	2	C57406
1/4	NF-28	H3	1	2.40	2-1/2	63.50	2	C57415
5/16	NC-18	H3	1-1/8	28.58	2-23/32	69.06	2	C57428
5/16	NF-24	H3	1-1/8	28.58	2-23/32	69.06	2	C57437
3/8	NC-16	H3	1-1/4	31.75	2-15/16	74.61	3	C57452
3/8	NF-24	H3	1-1/4	31.75	2-15/16	74.61	3	C57458
7/16	NC-14	H3	1-7/16	36.51	3-5/32	80.17	3	C57469
7/16	NF-20	H3	1-4/16	36.51	3-5/32	80.17	3	C57472
1/2	NC-13	H3	1-21/32	42.07	3-3/8	85.73	3	C57492
1/2	NF-20	H3	1-21/32	42.07	3-3/8	85.73	3	C57497
5/8	NC-11	H3	1-13/16	46.04	3-13/16	96.84	3	C57507
3/4	NC-10	H3	2	50.80	4-1/4	107.95	3	C57523

USO GENERAL

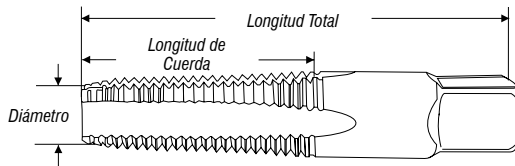
# ► LISTA: 965B MACHUELO NPT



## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Diámetro de Zanco		Longitud de Cuerda		Longitud Total		Canales	Código
		pulg	mm	pulg	mm	pulg	mm		
1/16	27	.3125	7.94	11/16	17.46	2-1/8	53.98	4	C64036
1/8*	27	.3125	7.94	3/4	19.05	2-1/8	53.98	4	C64037
1/8	27	.4375	11.11	3/4	19.05	2-1/8	53.98	4	C64038
1/4	18	.5625	14.29	1-1/16	26.99	2-7/16	61.91	4	C64039
3/8	18	.7000	17.78	1-1/16	26.99	2-9/16	65.09	4	C64040
1/2	14	.6875	17.46	1-3/8	34.93	3-1/8	79.38	4	C64041
3/4	14	.9063	23.02	1-3/8	34.93	3-1/4	82.55	5	C64042
1	11-1/2	1.1250	28.58	1-3/4	44.45	3-3/4	95.25	5	C64043
1-1/4	11-1/2	1.3125	33.34	1-3/4	44.45	4	101.60	5	C64044
1-1/2	11-1/2	1.5000	38.10	1-3/4	44.45	4-1/4	107.95	7	C64045
2	11-1/2	1.8750	47.63	1-3/4	44.45	4-1/2	114.30	7	C64046

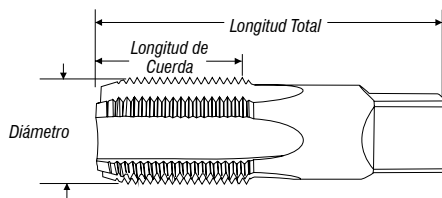
\*Zanco Corto

# ► LISTA: 963B MACHUELO NPS

## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Diámetro de Zanco		Longitud de Cuerda		Longitud Total		Canales	Código
		pulg	mm	pulg	mm	pulg	mm		
1/8*	27	.3125	7.94	3/4	19.05	2-1/8	53.98	4	C64115
1/8	27	.4375	11.11	3/4	19.05	2-1/8	53.98	4	C64116
1/4	18	.5625	14.29	1-1/16	26.99	2-7/16	63.91	4	C64117
3/8	18	.7000	17.78	1-1/16	26.99	2-9/16	65.09	4	C64118
1/2	14	.6875	17.46	1-3/8	34.93	3-1/8	79.38	4	C64119
3/4	14	.9063	23.02	1-3/8	34.93	3-1/4	82.55	5	C64120
1	11-1/2	1.1250	28.58	1-3/4	44.45	3-3/4	95.25	5	C64121

\*Zanco Corto

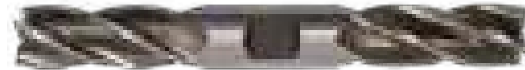
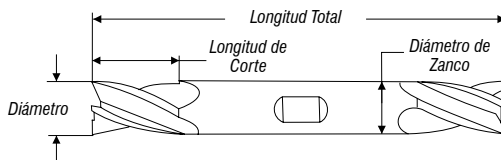
# ▶ LISTA: 582 CORTADOR CON DOBLE EXTREMO DE CORTE



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código
	pulg	mm	pulg	mm	pulg	mm		
1/8	3/8	9.53	3/8	9.53	3-1/16	77.79	4	C41202
5/32	3/8	9.53	7/16	11.11	3-1/8	79.38	4	C33029
3/16	3/8	9.53	1/2	12.70	3-1/4	82.55	4	C41204
7/32	3/8	9.53	9/16	14.29	3-1/4	82.55	4	C33032
1/4	3/8	9.53	5/8	15.88	3-3/8	85.73	4	C41207
5/16	3/8	9.53	3/4	19.05	3-1/2	88.90	4	C41209
3/8	3/8	9.53	3/4	19.05	3-1/2	88.90	4	C41212
7/16	1/2	12.70	1	25.40	4-1/2	114.30	4	C33043
1/2	1/2	12.70	1	25.40	4-1/8	104.78	4	C41216
5/8	5/8	15.88	1-3/8	34.93	5	127.00	4	C41219
11/16	3/4	19.05	1-5/8	41.28	5-5/8	142.88	4	C33051
1	1	25.40	1-7/8	47.63	6-3/8	161.93	4	C41231

Ver página 199 para Información Técnica.

USO GENERAL

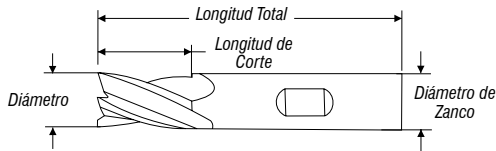
# ► LISTA: 556, 557 & 558 CORTADOR RECTO AL COBALTO



## Aplicaciones



## Características



Diámetro	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código
	pulg	mm	pulg	mm	pulg	mm		
1/8	3/8	9.53	3/8	9.53	2-5/16	58.74	4	C42684
5/32	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C32556
3/16	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C42686
1/4	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C42689
1/4	3/8	9.53	1-1/4	31.75	3-1/16	77.79	4	C32646
1/4	3/8	9.53	1-3/4	44.45	3-9/16	90.49	4	C32691
5/16	3/8	9.53	1-3/8	34.93	3-1/8	79.38	4	C32648
5/16	3/8	9.53	2	50.80	3-1/4	82.55	4	C32693
3/8	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C42694
3/8	3/8	9.53	1-1/2	38.10	3-1/4	82.55	4	C42857
3/8	3/8	9.53	2-1/2	63.50	4-1/4	107.95	4	C42913
7/16	3/8	9.53	1	25.40	2-11/16	68.26	4	C32570
7/16	3/8	9.53	1-3/4	44.45	3-1/4	82.55	4	C32651
1/2	1/2	12.70	1-1/4	31.75	3-1/4	82.55	4	C42699
1/2	1/2	12.70	1-1/4	31.75	3-1/4	82.55	6	C42698
1/2	1/2	12.70	2	50.80	4	101.60	4	C42861
1/2	1/2	12.70	2	50.80	5	127.00	4	C42917
5/8	5/8	15.88	1-5/8	41.28	3-1/4	82.55	4	C42703
5/8	5/8	15.88	2-1/2	63.50	4-5/8	117.48	4	C42864
3/4	3/4	19.05	1-5/8	41.28	3-7/8	98.43	4	C42707
3/4	3/4	19.05	2	50.80	5-1/4	133.35	4	C42868
7/8	7/8	22.23	3-1/2	88.90	5-3/4	146.05	4	C32653
1	1.000	25.40	2	50.80	4-1/2	114.30	4	C42715
1	1.000	25.40	2	50.80	4-1/2	114.30	6	C42714
1	1.000	25.40	4	101.60	6-1/2	165.10	4	C42876
1-1/4	1-1/4	31.75	4	101.60	6-1/2	165.10	4	C42881
1-1/2	1-1/4	31.75	2	50.80	4-1/2	114.30	6	C42726



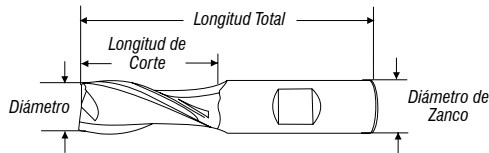
# ► LISTA: 685 CORTADOR RECTO 2 CANALES



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Código Brillante	Código TiN
	pulg	mm	pulg	mm	pulg	mm		
1/8	3/8	9.53	3/8	9.53	2-5/16	58.74	C41602	-
5/32	3/8	9.53	7/16	11.11	2-3/8	60.33	C33730	-
3/16	3/8	9.53	7/16	11.11	2-3/8	60.33	C41604	C41551
1/4	3/8	9.53	1/2	12.70	2-7/16	61.91	C41607	-
5/16	3/8	9.53	9/16	14.29	2-1/2	63.50	C41609	C41553
3/8	3/8	9.53	9/16	14.29	2-1/2	63.50	C41612	C41554
7/16	3/8	9.53	13/16	20.64	2-11/16	68.26	C41615	-
1/2	3/8	9.53	13/16	20.64	2-11/16	68.26	C41617	-
1/2	1/2	12.70	1	25.40	3-1/4	82.55	C41618	C41555
9/16	1/2	12.70	1-1/8	28.58	3-3/8	85.73	C41620	C33776
5/8	1/2	12.70	1-1/8	28.58	3-3/8	85.73	C41622	-
5/8	5/8	15.88	1-5/16	33.34	3-1/4	82.55	C41623	-
3/4	1/2	12.70	1-5/16	33.34	3-1/4	82.55	C41628	-
3/4	5/8	15.88	1-5/16	33.34	3-3/4	98.43	C41629	-
3/4	3/4	19.05	1-5/16	33.34	3-7/8	92.08	C41630	-
7/8	5/8	15.88	1-1/2	38.10	4-1/8	104.78	C41635	-
7/8	7/8	22.23	1-1/2	38.10	4-1/8	104.78	C41637	-
1	1	25.40	1-5/8	41.28	4-1/2	114.30	C41644	-
1-1/8	1	25.40	1-5/8	41.28	4-1/2	114.30	C41648	-
1-1/4	1	25.40	1-5/8	41.28	4-1/2	114.30	C41651	-
1-3/8	1	25.40	1-5/8	41.28	4-1/2	114.30	C41655	-
1-1/2	1	25.40	1-5/8	41.28	4-1/2	114.30	C41659	-
1-3/4	1-1/4	31.75	1-5/8	41.28	4-1/2	114.30	C41662	-
2	1-1/4	31.75	1-5/8	41.28	4-1/2	114.30	C41665	-

USO GENERAL

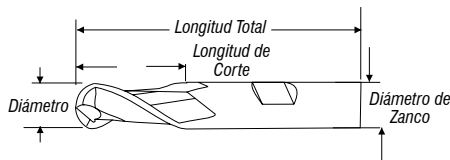
# ▶ LISTA: 690 CORTADOR BOLA 2 CANALES



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Código Brillante	Código TiN
	pulg	mm	pulg	mm	pulg	mm		
1/8	3/8	9.53	3/8	9.53	2-5/16	58.74	C42109	C39010
3/16	3/8	9.53	1/2	12.70	2-3/8	60.33	C42111	C39011
1/4	3/8	9.53	5/8	15.88	2-7/16	61.91	C42114	C39012
5/16	3/8	9.53	3/4	19.05	2-1/4	63.50	C42116	C39013
3/8	3/8	9.53	3/4	19.05	2-1/2	63.50	C42119	C39014
7/16	1/2	12.70	1	25.40	3-1/4	82.55	C42122	C39015
1/2	1/2	12.70	1	25.40	3-1/4	82.55	C42124	C39016
9/16	1/2	12.70	1-1/8	28.58	3-3/8	85.73	C42126	C39017
5/8	1/2	12.70	1-1/8	28.58	3-3/8	85.73	C42128	C39018
5/8	5/8	15.88	1-3/8	28.58	3-1/4	82.55	C42129	C39019
3/4	1/2	12.70	1-5/16	33.34	3-5/8	92.08	C42132	C39020
3/4	3/4	19.05	1-5/8	41.28	3-7/8	98.43	C42133	C39021
7/8	7/8	22.23	2	50.80	4-1/4	107.95	C42137	C39022
1	1	25.40	2-1/4	57.15	4-1/2	114.30	C42141	C39023
1-1/8	1	25.40	2-1/4	57.15	4-1/2	114.30	C42144	C39024
1-1/4	1-1/4	31.75	2-1/4	63.50	4-1/2	114.30	C42146	C39025
1-1/2	1-1/4	31.75	2-1/4	63.50	4-1/2	114.30	C42152	C39026

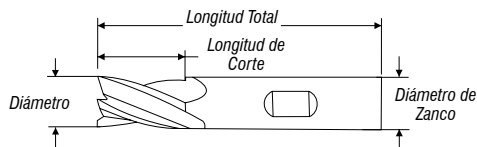
# ▶ LISTA: 583 CORTADOR RECTO



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código Brillante	Código TiN
	pulg	mm	pulg	mm	pulg	mm			
1/8	3/8	9.53	3/8	9.53	2-5/16	58.74	4	C41243	C41520
9/64	3/8	9.53	1/2	12.70	2-5/16	58.74	4	C33141	C33188
5/32	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C33142	C33189
11/64	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C33143	C33190
3/16	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C41245	C41521
3/16	3/8	9.53	1-1/4	31.75	3-1/16	77.79	4	C33371	C33384
13/64	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C33144	C33191
7/32	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C33145	C33192
15/64	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C33146	C33193
1/4	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C41248	C41522
17/64	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33147	C33194
9/32	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33148	C33195
19/64	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33149	C33196
5/16	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C41250	C41523
5/16	3/8	9.53	1-3/8	34.03	3-1/8	79.38	4	C41328	C33388
21/64	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33150	C33197
11/32	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33151	C33198
23/64	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33152	C33199
3/8	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C41253	C41524
3/8	3/8	9.53	1-1/2	38.10	3-1/4	82.55	4	C41331	C33390
25/64	3/8	9.53	1	25.40	2-11/16	68.26	4	C33153	C33200
13/32	3/8	9.53	1	25.40	2-11/16	68.26	4	C33154	C33201
7/16	1/2	12.7	1	25.40	2-11/16	68.26	4	C41254	C33203
29/64	1/2	12.7	1-1/4	31.75	3-1/4	82.55	4	C33157	C33204
15/32	1/2	12.7	1-1/4	31.75	3-1/4	82.55	4	C33158	C33205
31/64	3/8	9.53	1-1/4	31.75	3-1/4	82.55	4	C33159	C33206
1/2	3/8	9.53	1	25.40	2-11/16	68.28	4	C33160	C33207
1/2	1/2	12.7	1-1/4	31.75	3-1/4	88.55	4	C41257	C41525
1/2	1/2	9.53	2	50.80	4	101.60	4	C41335	C33394
17/32	1/2	12.7	1-3/8	34.93	3-3/8	85.73	4	C33161	C33208
9/16	1/2	12.7	1-3/8	34.93	3-3/8	85.73	4	C33162	C33209
19/32	1/2	12.7	1-3/8	34.93	3-3/8	85.73	4	C33163	C33210
5/8	1/2	12.7	1-3/8	34.93	3-3/8	85.73	4	C33164	C33211
5/8	5/8	15.88	1-5/8	41.28	3-3/4	95.25	4	C41260	C41526
21/32	5/8	15.88	1-5/8	41.28	3-3/4	95.25	4	C33165	C33212
11/16	5/8	15.88	1-5/8	41.28	3-5/8	85.73	4	C33166	C33213
11/16	5/8	15.88	1-5/8	41.28	3-3/4	95.25	4	C41262	C33214
23/32	3/4	19.05	1-5/8	41.28	3-7/8	98.43	4	C33167	C33215
3/4	1/2	12.7	1-5/8	41.28	3-5/8	85.73	4	C33168	C33216
3/4	5/8	15.88	1-5/8	41.28	3-3/4	95.25	4	C33169	C33217
3/4	3/4	19.05	1-5/8	41.28	3-7/8	98.43	4	C41264	C41527
25/32	3/4	19.05	1-7/8	47.63	4-1/8	104.78	4	C33170	C33218
13/16	5/8	15.88	1-7/8	47.63	4	101.60	4	C33171	C33219
27/32	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C33172	C33220

USO GENERAL



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código Brillante	Código TiN
	pulg	mm	pulg	mm	pulg	mm			
7/8	5/8	15.88	1-7/8	47.63	4	101.60	4	C33173	C33221
7/8	3/4	19.05	1-7/8	47.63	4-1/8	104.78	4	C33174	C33222
7/8	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C41268	C33223
29/32	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C33175	C33224
15/16	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C33176	C33225
31/32	1	25.40	2	50.80	4-1/2	114.30	4	C33177	C33226
1	5/8	15.88	1-7/8	47.63	4	101.60	4	C33178	C33227
1	3/4	19.05	1-7/8	47.63	4-1/8	104.78	4	C33179	C33228
1	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C33180	C33229
1	1	25.40	2	50.80	4-1/2	114.30	4	C41272	C41528
1	1	25.40	4	101.60	6-1/2	165.10	4	C41349	C33398
1-1/8	7/8	22.23	2	50.80	4-1/2	114.30	4	C33181	C33230
1-1/8	1	25.40	2	50.80	4-1/2	114.30	4	C41275	C33231
1-1/4	7/8	22.23	2	50.80	4-1/2	114.30	4	C33182	C33232
1-1/4	1	25.40	2	50.80	4-1/2	114.30	4	C33183	C33233
1-1/4	1-1/4	31.75	2	50.80	4-1/2	114.30	4	C41277	C33234
1-3/8	1	25.40	2	50.80	4-1/2	114.30	4	C33184	C33235
1-1/2	1	25.40	2	50.80	4-1/2	114.30	6	C33185	C33236
1-1/2	1-1/4	31.75	2	50.80	4-1/2	114.30	4	C41283	C33237
1-3/4	1-1/4	31.75	2	50.80	4-1/2	114.30	6	C33186	C33238
2	1-1/4	31.75	2	50.80	4-1/2	114.30	8	C33187	C33239

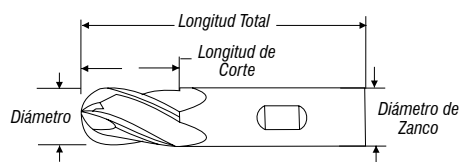
# ▶ LISTA: 584 CORTADOR BOLA 4 CANALES



## Aplicaciones



## Características



Diámetro Fraccional	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código Brillante	Código TiN
	pulg	mm	pulg	mm	pulg	mm			
1/4	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C33301	C33303
5/16	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C33302	C33304
3/8	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C41289	C33305
1/2	1/2	12.70	1-1/4	31.75	3-1/4	82.55	4	C41293	C33306
5/8	5/8	15.88	2-1/2	63.50	3-3/4	117.48	4	C41297	C33307
3/4	3/4	19.05	1-5/8	41.28	3-7/8	98.43	4	C41300	-
7/8	7/8	22.23	1-7/8	47.63	4-1/8	104.78	4	C41304	-
1	1	25.40	2	50.80	4-1/2	114.30	4	C41308	-

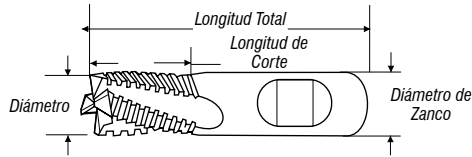
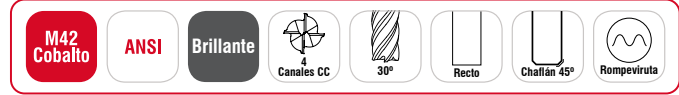
# ▶ LISTA: 506 CORTADOR ROUGHER



## Aplicaciones



## Características



Diámetro	Diámetro de Zanco		Longitud de Corte		Longitud Total		Canales	Código
	pulg	mm	pulg	mm	pulg	mm		
3/16	3/8	9.53	1/2	12.70	2-3/8	60.33	4	C30709
1/4	3/8	9.53	5/8	15.88	2-7/16	61.91	4	C31174
1/4	3/8	9.53	1-1/4	31.75	3-1/8	79.38	4	C31175
5/16	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C31176
3/8	3/8	9.53	3/8	9.53	2-5/32	54.77	4	C31177
3/8	3/8	9.53	3/4	19.05	2-1/2	63.50	4	C31178
7/16	1/2	12.70	1-1/4	31.75	3-1/4	82.55	4	C30710
1/2	1/2	12.70	1/2	12.70	2-1/2	63.50	4	C31180
1/2	1/2	12.70	1-1/4	31.75	3-1/2	82.55	4	C31181
1/2	1/2	12.70	2	50.80	4	101.60	4	C31182
3/4	3/4	19.05	3/4	19.05	2-7/8	73.03	4	C31193
3/4	3/4	19.05	1-5/8	41.28	3-7/8	98.43	4	C31194

USO GENERAL

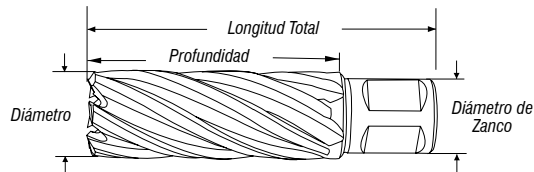
# ▶ LISTA: 8400 CORTADOR ANULAR HSS



## Aplicaciones



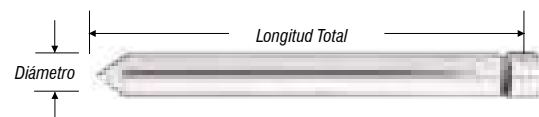
## Características



Fraccional	Diámetro		Diámetro de Zanco		Profundidad	
	Milimétrica	Pulgadas	pulg	mm	1-1/4"	2-1/4"
1/2	12.70	0.5000	3/4	19.05	C84001	C84002
	13	0.5118	3/4	19.05	C850313	C850513
	14	0.5512	3/4	19.05	C850314	C850514
9/16	14.29	0.5625	3/4	19.05	C84003	C84004
	15	0.5906	3/4	19.05	C850315	C850515
5/8	15.88	0.6250	3/4	19.05	C84005	C84006
	16	0.6299	3/4	19.05	C850316	C850516
	17	0.6693	3/4	19.05	C850317	C850517
11/16	17.46	0.6875	3/4	19.05	C84007	C84008
	18	0.7087	3/4	19.05	C850318	C850518
	19	0.7480	3/4	19.05	C850319	C850519
3/4	19.05	0.7500	3/4	19.05	C84009	C84010
	20	0.7874	3/4	19.05	C850320	C850520
13/16	20.64	0.8125	3/4	19.05	C84011	C84012
	21	0.8268	3/4	19.05	C850321	C850521
	22	0.8661	3/4	19.05	C850322	C850522
7/8	22.23	0.8750	3/4	19.05	C84013	C84014
	23	0.9055	3/4	19.05	C850323	C850523
15/16	23.81	0.9375	3/4	19.05	C84015	C84016
	24	0.9449	3/4	19.05	C850324	C850524
	25	0.9843	3/4	19.05	C850325	C850525
1	25.40	1.0000	3/4	19.05	C84017	C84018
	26	1.0236	3/4	19.05	C850326	C850526
1-1/16	26.99	1.0625	3/4	19.05	C84019	C84020
	27	1.0630	3/4	19.05	C850327	C850527
	28	1.1024	3/4	19.05	C850328	C850528
1-1/8	28.58	1.1250	3/4	19.05	C84021	C84022
	29	1.1417	3/4	19.05	C850329	C850529
	30	1.1811	3/4	19.05	C850330	C850530
1-3/16	30.16	1.1875	3/4	19.05	C84023	C84024
	31	1.2205	3/4	19.05	C850331	C850531
1-1/4	31.75	1.2500	3/4	19.05	C84025	C84026
	32	1.2598	3/4	19.05	C850332	C850532
	33	1.2992	3/4	19.05	C850333	C850533
1-5/16	33.34	1.3125	3/4	19.05	-	C84027
	34	1.3386	3/4	19.05	C850334	C850534
1-3/8	34.93	1.3750	3/4	19.05	-	C84028
	35	1.3780	3/4	19.05	C850335	C850535
	36	1.4173	3/4	19.05	C850336	C850536
	37	1.4567	3/4	19.05	C850337	C850537
	38	1.4961	3/4	19.05	C850338	C850538
1-1/2	38.10	1.5000	3/4	19.05	C84029	C84030
1-9/16	38.69	1.5625	3/4	19.05	-	C84031
	39	1.5354	3/4	19.05	C850339	C850539

Fraccional	Diámetro		Diámetro de Zanco		Profundidad	
	Milimétrica	Pulgadas	pulg	mm	1-1/4"	2-1/4"
	40	1.5748	3/4	19.05	C850340	C850540
	41	1.6142	3/4	19.05	C850341	C850541
1-5/8	41.28	1.6250	3/4	19.05	C84032	C84033
	42	1.6535	3/4	19.05	C850342	C850542
1-11/16	42.86	1.6875	3/4	19.05	-	C84034
	43	1.6929	3/4	19.05	C850343	C850543
	44	1.7323	3/4	19.05	C850344	C850544
1-3/4	44.45	1.7500	3/4	19.05	-	C84035
	45	1.7717	3/4	19.05	C850345	C850545
	46	1.8110	3/4	19.05	C850346	C850546
1-13/16	46.04	1.8125	3/4	19.05	C84036	C84037
	47	1.8504	3/4	19.05	C850347	C850547
1-7/8	47.63	1.8750	3/4	19.05	-	C84038
	48	1.8898	3/4	19.05	C850348	C850548
	49	1.9291	3/4	19.05	C850349	C850549
	50	1.9685	3/4	19.05	C850350	C850550
2	50.80	2.0000	3/4	19.05	C84039	C84040
	51	2.0079	3/4	19.05	C850351	C850551
	52	2.0472	3/4	19.05	C850352	C850552
	53	2.0866	3/4	19.05	C850353	C850553
2-1/8	53.98	2.1250	3/4	19.05	-	C84067
	54	2.1260	3/4	19.05	C850354	C850554
	55	2.1654	3/4	19.05	C850355	C850555
	56	2.2047	3/4	19.05	C850356	C850556
	57	2.2441	3/4	19.05	C850357	C850557
2-1/4	57.15	2.2500	3/4	19.05	-	C84065
	58	2.2835	3/4	19.05	C850358	C850558
	59	2.3228	3/4	19.05	C850359	C850559
	60	2.3622	3/4	19.05	C850360	C850560
2-3/8	60.33	2.3750	1-1/4	31.75	-	C84069
2-7/16	61.91	2.4375	1-1/4	31.75	-	C84071
2-1/2	63.50	2.5000	1-1/4	31.75	C84072	C84073

▶ **PILOT PIN**



Diámetro de Cortador	Diámetro		Longitud Total	Profundidad de cortador	
	mm	mm		1-1/4"	2-1/4"
12 a 65 mm (1/2" a 2-3/8")	6.34	77	C84060	-	
12 a 65 mm (1/2" a 2-3/8")	6.34	103	-	C84062	
2-3/8" a 2-1/2"	7.98	90	C84063	-	
2-3/8" a 2-1/2"	7.98	103	-	C84064	

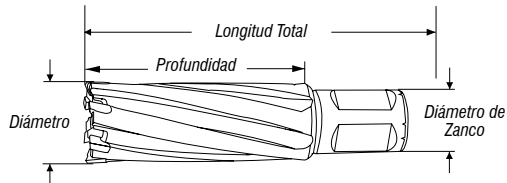
# ▶ LISTA: 8440 CORTADOR ANULAR CON PLAQUITA DE CARBURO



## Aplicaciones



## Características

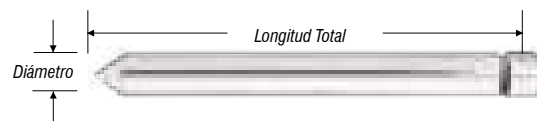


Fraccional	Diámetro		Diámetro de Zanco		Profundidad	
	Milimétrica	Pulgadas	pulg	mm	1-1/4"	2-1/4"
1/2	12.70	0.5000	3/4	19.05	C84401	C84402
	14	0.5512	3/4	19.05	C854314	C854514
9/16	14.29	0.5625	3/4	19.05	C84403	C84404
	15	0.5906	3/4	19.05	C854315	C854515
5/8	15.88	0.6250	3/4	19.05	C84405	C84406
	16	0.6299	3/4	19.05	C854316	C854516
	17	0.6693	3/4	19.05	C854317	C854517
11/16	17.46	0.6875	3/4	19.05	C84407	C84408
	18	0.7087	3/4	19.05	C854318	C854518
	19	0.7480	3/4	19.05	C854319	C854519
3/4	19.05	0.7500	3/4	19.05	C84409	C84410
	20	0.7874	3/4	19.05	C854320	C854520
13/16	20.64	0.8125	3/4	19.05	C84411	C84412
	21	0.8268	3/4	19.05	C854321	C854521
	22	0.8661	3/4	19.05	C854322	C854522
7/8	22.23	0.8750	3/4	19.05	C84413	C84414
	23	0.9055	3/4	19.05	C854323	C854523
15/16	23.81	0.9375	3/4	19.05	C84415	C84416
	24	0.9449	3/4	19.05	C854324	C854524
	25	0.9843	3/4	19.05	C854325	C854525
1	25.40	1.0000	3/4	19.05	C84417	C84418
	26	1.0236	3/4	19.05	C854326	C854526
1-1/16	26.99	1.0625	3/4	19.05	C84419	C84420
	27	1.0630	3/4	19.05	C854327	C854527
	28	1.1024	3/4	19.05	C854328	C854528
1-1/8	28.58	1.1250	3/4	19.05	C84421	C84422
	29	1.1417	3/4	19.05	C854329	C854529
	30	1.1811	3/4	19.05	C854330	C854530
1-3/16	30.16	1.1875	3/4	19.05	C84423	C84424
	31	1.2205	3/4	19.05	C854331	C854531
1-1/4	31.75	1.2500	3/4	19.05	C84425	C84426
	32	1.2598	3/4	19.05	C854332	C854532
	33	1.2992	3/4	19.05	C854333	C854533
1-5/16	33.34	1.3125	3/4	19.05	C84443	C84427
	34	1.3386	3/4	19.05	C854334	C854534
1-3/8	34.93	1.3750	3/4	19.05	C84444	C84428
	35	1.3780	3/4	19.05	C854335	C854535
	36	1.4173	3/4	19.05	C854336	C854536
	37	1.4567	3/4	19.05	C854337	C854537
	38	1.4961	3/4	19.05	C854338	C854538
1-1/2	38.10	1.5000	3/4	19.05	C84429	C84430
1-9/16	38.69	1.5625	3/4	19.05	C84447	C84431
	39	1.5354	3/4	19.05	C854339	C854539
	40	1.5748	3/4	19.05	C854340	C854540



Fraccional	Diámetro		Diámetro de Zanco		Profundidad	
	Milimétrica	Pulgadas	pulg	mm	1-1/4"	2-1/4"
	41	1.6142	3/4	19.05	C854341	C854541
1-5/8	41.28	1.6250	3/4	19.05	C84432	C84433
	42	1.6535	3/4	19.05	C854342	C854542
1-11/16	42.86	1.6875	3/4	19.05	C84448	C84434
	43	1.6929	3/4	19.05	C854343	C854543
	44	1.7323	3/4	19.05	C854344	C854544
1-3/4	44.45	1.7500	3/4	19.05	C84449	C84435
	45	1.7717	3/4	19.05	C854345	C854545
	46	1.8110	3/4	19.05	C854346	C854546
1-13/16	46.04	1.8125	3/4	19.05	C84436	C84437
	47	1.8504	3/4	19.05	C854347	C854547
1-7/8	47.63	1.8750	3/4	19.05	C84450	C84438
	48	1.8898	3/4	19.05	C854348	C854548
	49	1.9291	3/4	19.05	C854349	C854549
	50	1.9685	3/4	19.05	C854350	C854550
2	50.80	2.0000	3/4	19.05	C84439	C84440
	51	2.0079	3/4	19.05	-	C854551
	52	2.0472	3/4	19.05	-	C854552
2-1/16	52.39	2.0625	3/4	19.05	-	C84454
	53	2.0866	3/4	19.05	-	C854553
2-1/8	53.98	2.1250	3/4	19.05	-	C84456
	54	2.1260	3/4	19.05	-	C854554
	55	2.1654	3/4	19.05	-	C854555
2-3/16	55.56	2.1875	3/4	19.05	-	C84458
	56	2.2047	3/4	19.05	-	C854556
	57	2.2441	3/4	19.05	-	C854557
2-1/4	57.15	2.2500	3/4	19.05	-	C84460
	58	2.2835	3/4	19.05	-	C854558
2-5/16	58.74	2.3125	3/4	19.05	-	C84462
	59	2.3228	3/4	19.05	-	C854559
	60	2.3622	3/4	19.05	-	C854560
2-3/8	60.33	2.3750	1-1/4	31.75	-	C84464
2-1/2	63.50	2.5000	1-1/4	31.75	-	C84468

▶ **PILOT PIN**



Diámetro de Cortador	Diámetro		Longitud Total	Profundidad de cortador	
	mm	mm		1-1/4"	2-1/4"
14 a 16 mm (9/16" a 5/8")	6.34	90	C84061	-	
14 a 16 mm (9/16" a 5/8")	6.34	103	-	C84062	
17 a 60 mm (11/16" a 2-1/2")	7.98	90	C84063	-	
17 a 60 mm (11/16" a 2-1/2")	7.98	103	-	C84064	

# ▶ LISTA: 850 & 855 BURIL CUADRADO MO-MAX



## Aplicaciones



Mo-Max HSS



Mo-Max Cobalto

## Características



Mo-Max HSS



Mo-Max Cobalto

Ancho		Longitud Total		Mo-Max Hss	Mo-Max Cobalto
Pulgadas	pulg	mm	mm		
1/8	2-1/2	63.50	C44505	C44536	
3/16	2-1/2	63.50	C44509	C44540	
1/4	2-1/2	63.50	C44513	C44544	
5/16	2-1/2	53.50	C44514	C44545	
3/8	3	76.20	C44516	C44547	
7/16	3-1/2	88.90	C44518	C44549	
1/2	4	101.60	C44520	C44551	
5/8	4-1/2	114.30	C44522	C44553	
3/4	5	127.00	C44525	C44556	
7/8	6	152.40	C44527	C44558	
1	7	177.80	C44528	C44559	
1-1/4	9	228.60	C44530	C44561	



- Los buriles Mo-Max están diseñados para uso general.
- Los buriles Mo-Max al Cobalto están diseñados para materiales más duros.
- Todos los buriles Mo-Max están biselados por ambos extremos a 10°.

# ▶ LISTA-3510 & 3515 BURIL EXTRA LARGO MO-MAX



## Aplicaciones



## Características



Mo-Max HSS



Mo-Max Cobalto

Ancho Pulgadas	Longitud Total		Mo-Max Hss	Mo-Max Cobalto
	pulg	mm		
3/16	3	76.20	-	3515-018730
3/16	4	101.60	3510-018740	-
3/16	6	152.40	-	3515-018760
1/4	3	76.20	3510-025030	3515-025030
1/4	4	101.60	3510-025040	3515-025040
1/4	6	152.40	3510-025060	-
1/4	8	203.20	3510-025080	3515-025080
5/16	3	76.20	3510-031230	-
5/16	4	101.60	3510-031240	3515-031240
5/16	6	152.40	3510-031260	-
5/16	8	203.20	3510-031280	3515-031280
3/8	4	101.60	3510-037540	3515-037540
3/8	6	152.40	3510-037560	3515-037560
3/8	8	203.20	3510-037580	3515-037580
7/16	6	152.40	3510-043760	-
1/2	6	152.40	3510-050060	3515-050060
1/2	8	203.20	3510-050080	3515-050080
5/8	6	152.40	3510-062560	3515-062560
5/8	8	203.20	3510-062580	3515-062580
3/4	8	203.20	-	3515-075080

Ancho Milímetros	Longitud Total		Mo-Max Hss	Mo-Max Cobalto
	pulg	mm		
10.00	8.874	200.00	3510-1010200	3515-1010200
12.00	8.874	200.00	3510-1212200	3515-1212200

USO GENERAL

# ▶ LISTA: 853 & 858

CUCHILLA DE TRONZADO  
PARA PORTA CUCHILLA  
ARMSTRONG Y WILLIAMS



## Aplicaciones



Mo-Max HSS



Mo-Max Cobalto

## Características



Mo-Max HSS



Mo-Max Cobalto

Ancho		Altura		Longitud Total		Mo-Max Hss	Mo-Max Cobalto
Pulgadas	pulg	mm	pulg	mm			
5/64	1/2	12.70	4-1/2	114.30	C44738	-	
3/32	1/2	12.70	4-1/2	114.30	C44740	C44741	
3/32	5/8	15.88	5	127.00	C44742	C44743	
1/8	3/4	19.05	5	127.00	C44744	C44745	
1/8	7/8	22.23	6	152.40	C44746	C44747	
3/16	1	25.40	6-1/2	165.10	C44748	C44749	
3/16	1-1/8	28.58	7	117.80	C44750	C44751	
1/4	1-1/4	31.75	7	117.80	C44754	-	
1/4	1-3/8	39.93	7	117.80	-	C44757	

# ▶ LISTA: 852 & 857

CUCHILLA DE TRONZADO



Mo-Max HSS



Mo-Max Cobalto

Ancho		Altura		Longitud Total		Mo-Max Hss	Mo-Max Cobalto
Pulgadas	pulg	mm	pulg	mm			
1/16	1/2	12.70	4-1/2	114.30	C44701	C44702	
3/32	1/2	12.70	4-1/2	114.30	C44707	C44708	
3/32	11/16	17.46	5	127.00	-	C44710	
1/8	11/16	17.46	5	127.00	-	C44716	
1/8	13/16	20.64	6	152.40	C44717	C44718	
1/8	1	25.40	6-1/2	165.10	C44719	C44720	
3/16	13/16	20.64	6	152.40	C44723	-	
3/16	1	25.40	6-1/2	165.10	C44725	C44726	

Mo-Max Cobalto



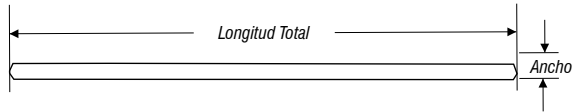
# ▶ LISTA: 3558 BURIL REDONDO



## Aplicaciones



## Características



Ancho Pulgadas	Longitud Total		Código
	pulg	mm	
1/16	4	101.60	3558-0062
1/8	4	101.60	3558-0125
5/32	4	101.60	3558-0156
3/16	4	101.60	3558-0187
1/4	4	101.60	3558-0250
5/16	4	101.60	3558-0312
3/8	4	101.60	3558-0375
7/16	4	101.60	3558-0437
1/2	4	101.60	3558-0500

USO GENERAL



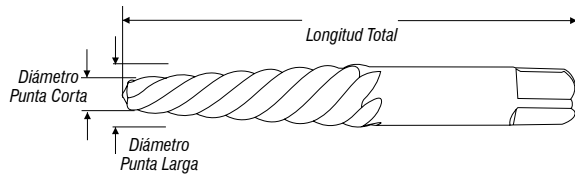
# ▶ LISTA: 192 EXTRACTOR DE TORNILLOS



## Aplicaciones



## Características



Número	Punta Corta		Punta Larga		Longitud Total		Medida de Tornillo	Díametro Broca Recomendada	Código
	pulg	mm	pulg	mm	pulg	mm		pulg	
1	0.054	1.37	0.156	3.97	2	50.80	3/16 a 1/4	5/64	C53651
2	0.080	2.03	0.188	4.76	2-3/8	60.33	1/4 a 5/16	7/64	C53652
3	0.125	3.18	0.250	6.35	2-11/16	68.26	5/16 a 7/16	5/32	C53653
4	0.188	4.76	0.328	8.33	2-7/8	73.03	7/16 a 9/16	1/4	C53654
5	0.250	6.35	0.438	11.11	3-3/8	85.73	9/16 a 3/4	9/32	C53655
6	0.375	9.53	0.594	15.08	3-3/4	95.25	3/4 a 1	13/32	C53656
7	0.500	12.70	0.750	19.05	4-1/8	104.78	1 a 1-3/8	17/32	C53657
8	0.750	19.05	1.000	25.40	4-3/8	111.13	1-3/8 a 1-3/4	13/16	C53658
9	1.000	25.40	1.281	32.54	4-5/8	117.48	1-3/4 a 2-1/8	1-1/16	C53659
10	1.250	31.75	1.563	39.69	5	127.00	2-1/8 a 2-1/2	1-5/16	C53660

## ▶ JUEGO DE EXTRACTORES DE TORNILLO

Número	Medida de Tornillo	Código
15	1 al 5	C00906
15-A	1 al 6	C00907
16	6, 7, 8 y 9	C00908



Utilice extractores de tornillos para quitar los tornillos y pernos rotos.

Los extractores de tornillo son especialmente utilizados en los departamentos de mantenimiento, talleres mecánicos y automotrices.

Para extraer un tornillo roto siga el procedimiento:  
 -Taladre un agujero en la rotura del tornillo usando el diámetro de broca recomendada en la tabla anterior.  
 -Inserte el extractor de tornillos adecuado en el agujero y girelo hacia la izquierda auxiliado con un maneral sobre el cuadro del extractor.

-El extractor se adhiere a la pared del agujero hecho en el tornillo roto y al girarlo, el tornillo sale sin dañar la rosca.

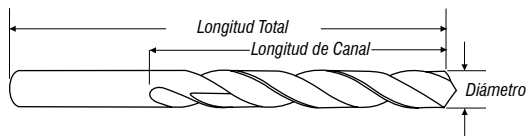
-En algunos casos es recomendable la ayuda de un lubricante para eliminar el óxido o corrosión entre la cuerda y el tornillo roto.



# ▶ LISTA: 150 BROCA JOBBER



## Aplicaciones



## Características



USO GENERAL

Fraccional	Diámetro			Longitud Total		Longitud de Canal		Brillante	Óxido al Vapor	TiN
	Númerica	Milimétrica	Alfabética	pulg	mm	pulg	mm			
1/64	80			0.750	19.05	0.125	3.18	-	44150	-
	79			0.750	19.05	0.125	3.18	-	44149	-
				0.750	19.05	0.187	4.76	-	44001	-
		.40		0.787	20.00	0.197	5.00	47211	-	-
	78			0.875	22.23	0.187	4.76	-	44148	-
	77			0.875	22.23	0.187	4.76	-	44147	70177
		.50		0.866	22.00	0.236	6.00	47213	-	-
				0.875	22.23	0.187	4.76	-	44146	-
1/32	76			1.000	25.40	0.250	6.35	-	44145	-
	75			1.000	25.40	0.250	6.35	-	44144	-
	74			1.000	25.40	0.250	6.35	-	44144	-
		.60		0.945	24.00	0.276	7.00	47215	-	-
	73			1.000	25.40	0.250	6.35	-	44143	70173
	72			1.125	28.58	0.313	7.94	-	44142	70172
	71			1.250	31.75	0.375	9.53	-	44141	-
	70			1.250	31.75	0.375	9.53	-	44140	-
	69			1.375	34.93	0.500	12.70	-	44139	-
	68			1.375	34.93	0.500	12.70	-	44138	-
				1.375	34.93	0.500	12.70	-	44002	70202
				1.377	34.93	0.500	12.70	-	44137	-
	.85		1.375	34.93	0.500	12.70	-	44136	-	
65			1.181	30.00	0.394	10.00	47220	-	-	
	.90		1.500	38.10	0.625	15.88	-	44135	-	
			1.181	32.00	0.433	11.00	47221	-	-	
64			1.500	38.10	0.625	15.88	-	44134	-	
63			1.500	38.10	0.625	15.88	-	44133	-	
	.95		1.260	32.00	0.433	11.00	47222	-	-	
62			1.500	38.10	0.625	15.88	-	44132	-	
61			1.625	41.28	0.688	17.46	-	44131	-	
	1.00		1.339	34.00	0.472	12.00	-	47223	70331	
60			1.625	41.28	0.688	17.46	-	44130	-	
59			1.625	41.28	0.688	17.46	-	44129	-	
58			1.625	41.28	0.688	17.46	-	44128	-	
57			1.750	44.45	0.375	9.53	-	44127	-	
	1.10		1.417	36.00	0.551	14.00	-	47225	-	

Fraccional	Diámetro			Longitud Total		Longitud de Canal		Brillante	Óxido al Vapor	TiN
	Númerica	Milimétrica	Alfabética	pulg	mm	pulg	mm			
		1.15		1.417	36.00	0.551	14.00	-	47226	-
3/64	56			1.750	44.45	0.750	19.05	-	44126	-
				1.750	44.45	0.750	19.05	-	44003	70203
		1.20		1.496	38.00	0.630	16.00	-	47227	-
		1.25		1.496	38.00	0.630	16.00	-	47228	-
		1.30		1.496	38.00	0.630	16.00	-	47229	-
	55			1.875	47.63	0.875	22.23	-	44125	-
	54			1.875	47.63	0.875	22.23	-	44124	70154
		1.45		1.575	40.00	0.709	18.00	-	47232	-
		1.50		1.575	40.00	0.709	18.00	-	47233	70347
	53			1.875	47.63	0.875	22.23	-	44123	70153
1/16		1.55		1.693	43.00	0.787	20.00	-	47234	-
				1.875	47.63	0.875	22.23	-	44004	70204
		1.60		1.693	43.00	0.787	20.00	-	47235	-
	52			1.875	47.63	0.875	22.23	-	44122	-
		1.65		1.693	43.00	0.787	20.00	-	47236	-
		1.70		1.693	43.00	0.787	20.00	-	47237	-
	51			2.000	50.80	1.000	25.40	-	44121	-
	50			2.000	50.80	1.000	25.40	-	44120	-
		1.80		1.811	46.00	0.875	22.00	-	47239	-
		1.85		1.811	46.00	0.875	22.00	-	47240	-
	49			2.000	50.80	1.000	25.40	-	44119	-
		1.90		1.811	46.00	0.875	22.00	-	47241	-
5/64	48			2.000	50.80	1.000	25.40	-	44118	-
				2.000	50.80	1.000	25.40	-	44005	70205
	47			2.000	50.80	1.000	25.40	-	44117	-
		2.00		1.929	49.00	0.945	24.00	-	47243	70332
		2.05		1.929	49.00	0.945	24.00	-	47244	-
	46			2.125	53.98	1.125	28.58	-	44116	-
	45			2.125	53.98	1.125	28.58	-	44115	-
		2.10		1.929	49.00	0.945	24.00	-	47245	-
		2.15		2.087	53.00	1.063	27.00	-	47246	-
	44			2.125	53.98	1.125	28.58	-	44114	-
		2.20		2.087	53.00	1.063	27.00	-	47247	-
		2.25		2.087	53.00	1.063	27.00	-	47248	-
	43			2.250	57.15	1.250	31.75	-	44113	-
		2.30		2.087	53.00	1.063	27.00	-	47249	70368
		2.35		2.087	53.00	1.063	27.00	-	47250	-
3/32	42			2.250	57.15	1.250	31.75	-	44112	-
				2.250	57.15	1.250	31.75	-	44006	70206
		2.40		2.244	57.00	1.181	30.30	-	47251	-
	41			2.375	60.33	1.375	34.93	-	44111	-
	40			2.375	60.33	1.375	34.93	-	44110	-
		2.50		2.244	57.00	1.181	30.00	-	47253	70369
	39			2.375	60.33	1.375	34.93	-	44109	-
	38			2.500	63.50	1.437	36.51	-	44108	70138
		2.60		2.244	57.00	1.181	33.00	-	47254	-
	37			2.500	63.50	1.437	36.51	-	44107	-
		2.70		2.402	61.00	1.299	33.00	-	47255	-
7/64	36			2.500	63.50	1.437	36.51	-	44106	-
				2.625	66.68	1.500	38.10	-	44007	70207
	35			2.625	66.67	1.500	38.10	-	44105	-
		2.80		2.402	61.00	1.299	33.00	-	47257	70370
	34			2.625	66.67	1.500	38.10	-	44104	70134
	33			2.625	66.67	1.500	38.10	-	44103	-
		2.90		2.402	61.00	1.299	33.00	-	47258	70371
	32			2.750	69.85	1.625	41.28	-	44102	-
		3.00		2.402	61.00	1.417	36.00	-	47259	70333
	31			2.750	69.85	1.625	41.28	-	44101	-
1/8		3.10		2.559	65.00	1.417	36.00	-	47260	-
				2.750	69.85	1.625	41.25	-	44008	70208
		3.20		2.559	65.00	1.417	36.00	-	47261	70373
	30			2.750	69.85	1.625	41.28	-	44100	-




Fraccional	Diámetro		Alfabetica	Longitud Total		Longitud de Canal		Brillante	Óxido al Vapor	TiN
	Númerica	Milimétrica		pulg	mm	pulg	mm			
		3.30		2.559	65.00	1.535	39.00	-	47263	70374
		3.40		2.756	70.00	1.535	39.00	-	47264	-
	29			2.875	73.03	1.750	44.45	-	44099	-
		3.50		2.756	70.00	1.535	39.00	-	47265	70376
	28			2.875	73.03	1.750	44.45	-	44098	-
9/64				2.875	73.03	1.750	44.45	-	44009	70209
		3.60		2.756	70.00	1.535	39.00	-	47266	-
	27			3.000	76.20	1.875	47.62	-	44097	70127
		3.70		2.756	70.00	1.693	43.00	-	47267	-
	26			3.000	76.20	1.875	47.62	-	44096	70126
	25			3.000	76.20	1.875	47.62	-	44095	70125
		3.80		2.953	75.00	1.693	43.00	-	47269	-
	24			3.125	79.38	2.000	50.80	-	44094	-
		3.90		2.953	75.00	1.693	43.00	-	47270	-
	23			3.125	79.38	2.000	50.80	-	44093	-
5/32				3.125	79.38	2.000	50.80	-	44010	70210
	22			3.125	79.38	2.000	50.80	-	44092	70122
		4.00		2.953	75.00	1.693	43.00	-	47271	70334
	21			3.500	88.90	2.312	58.74	-	44091	70121
	20			3.250	88.55	2.125	53.98	-	44090	-
		4.10		2.953	75.00	1.693	43.00	-	47272	-
		4.20		2.953	75.00	1.693	43.00	-	47273	70378
	19			3.250	88.55	2.125	53.98	-	44089	-
		4.30		3.150	80.00	1.850	47.00	-	47275	-
	18			3.250	88.55	2.125	53.98	-	44088	-
11/64				3.250	82.55	2.125	53.98	-	44011	70211
	17			3.375	85.73	2.187	55.56	-	44087	-
		4.40		3.150	80.00	1.850	47.00	-	47276	-
	16			3.375	85.73	2.187	55.56	-	44086	-
		4.50		3.150	80.00	1.850	47.00	-	47277	-
	15			3.375	85.73	2.187	55.56	-	44085	70115
		4.60		3.150	80.00	1.850	47.00	-	47278	-
	14			3.750	85.73	2.187	55.56	-	44084	-
	13			3.500	88.90	2.312	55.56	-	44083	-
		4.70		3.150	80.00	1.850	47.00	-	47279	-
3/16				3.500	88.90	2.312	58.74	-	44012	70212
		4.80		3.386	86.00	2.047	52.00	-	47281	-
	12			3.500	88.90	2.312	55.56	-	44082	-
	11			3.500	88.90	2.312	55.56	-	44081	-
		4.90		3.386	86.00	2.047	52.00	-	47282	-
	10			3.625	92.08	2.437	61.91	-	44080	70110
	9			3.625	92.08	2.437	61.91	-	44079	-
		5.00		3.386	86.00	2.047	52.00	-	47283	70335
	8			3.625	92.08	2.437	61.91	-	44078	-
		5.10		3.386	86.00	2.047	52.00	-	47284	-
	7			3.625	92.08	2.437	61.91	-	44077	-
13/64				3.625	92.08	2.437	61.91	-	44013	70213
	6			3.750	95.25	2.500	63.50	-	44076	70106
		5.20		3.386	86.00	2.047	52.00	-	47285	-
	5			3.750	95.25	2.500	63.50	-	44075	-
		5.30		3.386	86.00	2.047	52.00	-	47287	-
	4			3.750	95.25	2.500	63.50	-	44074	70104
		5.40		3.661	93.00	2.244	57.00	-	47288	-
	3			3.750	95.25	2.500	63.50	-	44073	-
		5.50		3.661	93.00	2.244	57.00	-	47289	70381
7/32				3.750	95.25	2.500	63.50	-	44014	70214
	2			3.875	98.43	2.625	66.68	-	44072	70102
	1			3.875	98.43	2.625	66.68	-	44071	-
		5.80		3.661	93.00	2.244	57.00	-	47293	-
		5.90		3.661	93.00	2.244	57.00	-	47294	-
			A	3.875	98.43	2.625	66.68	-	44171	-
15/64				3.875	98.43	2.625	66.68	-	44015	70215
		6.00		3.976	101.00	2.244	57.00	-	47295	70336

Fraccional	Diámetro			Longitud Total		Longitud de Canal		Brillante	Óxido al Vapor	TiN
	Númerica	Milimétrica	Alfabética	pulg	mm	pulg	mm			
			B	4.000	101.60	2.750	69.85	-	44172	-
		6.10		3.976	101.00	2.480	63.00	-	47296	-
			C	4.000	101.60	2.750	69.85	-	44173	-
		6.20		3.976	101.00	2.480	63.00	-	47297	-
			D	4.000	101.60	2.750	69.85	-	44174	-
		6.30		3.976	101.00	2.480	63.00	-	47299	-
1/4			E	4.000	101.60	2.750	69.85	-	44016	70216
		6.40		3.976	101.00	2.480	63.00	-	47300	-
		6.50		3.976	101.00	2.480	63.00	-	47301	70384
			F	4.125	104.78	2.875	73.03	-	44176	-
		6.60		3.976	101.00	2.480	63.00	-	47302	-
			G	4.125	104.78	2.875	73.03	-	44177	-
		6.70		3.976	109.00	2.480	63.00	-	47303	70385
17/64				4.125	104.78	2.875	73.03	-	44017	70217
			H	4.125	104.78	2.875	73.03	-	44178	70308
		6.80		4.291	109.00	2.717	69.00	-	47305	70386
		6.90		4.291	109.00	2.717	69.00	-	47306	-
			I	4.125	104.78	2.875	73.03	-	44179	-
		7.00		4.291	109.00	2.717	69.00	-	47307	70337
			J	4.125	104.78	2.875	73.03	-	44180	70310
		7.10		4.291	109.00	2.717	69.00	-	47308	-
			K	4.250	107.95	2.937	74.61	-	44181	70311
9/32				4.250	107.95	2.937	74.61	-	44018	70218
		7.20		4.291	109.00	2.717	69.00	-	47309	-
		7.30		4.291	109.00	2.717	69.00	-	47311	-
			L	4.250	107.95	2.937	74.61	-	44182	70312
			M	4.375	111.13	3.062	77.79	-	44183	-
		7.50		4.606	117.00	2.717	69.00	-	47313	70388
19/64				4.375	111.13	3.063	77.79	-	44019	70219
		7.60		4.606	117.00	2.953	75.00	-	47314	-
			N	4.375	111.13	3.063	77.79	-	44184	-
		7.70		4.606	117.00	2.953	75.00	-	47315	-
		7.80		4.606	117.00	2.953	75.00	-	47317	-
		7.90		4.606	117.00	2.953	75.00	-	47318	-
5/16				4.500	114.30	3.187	80.96	-	44020	70220
		8.00		4.606	117.00	2.953	75.00	-	47319	70338
			O	4.500	114.30	3.187	77.79	-	44185	70315
		8.10		4.606	117.00	2.953	75.00	-	47320	-
		8.20		4.606	117.00	2.953	75.00	-	47321	-
			P	4.625	117.48	3.312	84.14	-	44186	70316
		8.30		4.606	117.00	2.953	75.00	-	47323	-
21/64				4.625	117.48	3.312	84.14	-	44021	70221
		8.40		4.606	117.00	2.953	75.00	-	47324	-
			Q	4.750	120.65	3.437	87.61	-	44187	70317
		8.50		4.921	125.00	2.953	75.00	-	47325	70389
		8.60		4.921	125.00	3.189	81.00	-	47326	-
			R	4.750	120.65	3.437	87.61	-	44188	-
		8.70		4.921	125.00	3.189	81.00	-	47327	-
11/32				4.750	120.65	3.437	87.31	-	44022	70222
		8.80		4.921	125.00	3.189	81.00	-	47329	-
			S	4.875	123.83	3.500	88.90	-	44189	-
		8.90		4.921	125.00	3.189	81.00	-	47330	-
		9.00		4.920	125.00	3.189	81.00	-	47331	70339
			T	4.875	123.83	3.500	88.90	-	44190	70320
23/64				4.875	123.83	3.500	88.90	-	44023	70223
		9.20		4.920	125.00	3.189	81.00	-	47333	-
			U	5.000	127.00	3.625	92.08	-	44191	-
		9.40		5.240	133.00	3.189	81.00	-	47336	-
		9.50		5.240	133.00	3.189	81.00	-	47337	70391
3/8				5.000	127.00	3.625	92.08	-	44024	70224
			V	5.000	127.00	3.625	92.08	-	44192	70322
		9.60		5.240	133.00	3.425	87.00	-	47338	-
		9.70		5.240	133.00	3.425	87.00	-	47339	-

Fraccional	Diámetro			Longitud Total		Longitud de Canal		Brillante	Óxido al Vapor	TiN
	Númerica	Milimétrica	Alfabética	pulg	mm	pulg	mm			
		9.80		5.240	133.00	3.425	87.00	-	47341	-
			W	5.125	130.18	3.750	95.25	-	44193	70323
		9.90		5.240	133.00	3.425	87.00	-	47342	-
25/64				5.125	130.18	3.750	95.25	-	44025	70225
		10.00		5.240	133.00	3.425	87.00	-	47343	70340
			X	5.125	130.18	3.750	95.25	-	44194	70324
		10.20		5.240	133.00	3.425	87.00	-	47354	-
			Y	5.250	133.35	3.875	98.43	-	44195	70325
13/32				5.250	133.35	3.875	98.43	-	44026	70226
			Z	5.250	133.35	3.875	98.43	-	44196	-
		10.50		5.590	142.00	3.425	87.00	-	47344	70393
27/64				5.375	136.53	3.937	100.01	-	44027	70227
		11.00		5.590	142.00	3.701	94.00	-	47345	-
7/16				5.500	139.70	4.063	103.19	-	44028	70228
		11.50		5.590	142.00	3.701	94.00	-	47346	-
29/64				5.625	142.88	4.187	106.36	-	44029	70229
15/32				5.750	146.05	4.312	109.54	-	44030	70230
		12.00		5.940	151.00	3.976	101.00	-	47347	70342
31/64				5.875	149.23	4.750	111.13	-	44031	70231
		12.50		5.940	151.00	3.976	101.00	-	47348	70397
1/2				6.000	152.40	4.500	114.30	-	44032	70232
		13.00		5.940	151.00	3.976	101.00	-	47349	70343
33/64				6.625	168.28	4.812	122.24	-	44033	-
17/32				6.625	168.28	4.812	122.24	-	44034	70234
		13.50		6.299	160.00	4.252	108.00	-	47363	-
35/64				6.625	168.28	4.812	122.24	-	44035	70235
		14.00		6.299	160.00	4.252	108.00	-	47362	-
9/16				6.625	168.28	4.812	122.24	-	44036	70236
		14.50		6.299	160.00	4.488	114.00	-	47366	-
37/64				6.625	168.28	4.812	122.24	-	44037	-
		15.00		6.299	160.00	4.488	114.00	-	47369	-
19/32				7.125	180.98	5.187	131.76	-	44038	-
39/64				7.125	180.98	5.187	131.76	-	44039	-
		15.50		7.007	178.00	4.724	120.00	-	47368	-
5/8				7.125	180.98	5.187	131.76	-	44040	70240
		16.00		7.007	178.00	4.724	120.00	-	47372	-
41/64				7.125	180.98	5.187	131.76	-	44041	70241
		16.50		7.244	184.00	4.920	125.00	-	47374	-
21/32				7.125	180.98	5.187	131.76	-	44042	70242
		16.75		7.244	184.00	4.920	125.00	-	47376	-
43/64				7.125	180.98	5.187	131.76	-	44043	70243
11/16				7.125	180.98	5.187	131.76	-	44044	70244
		17.00		7.244	184.00	4.920	125.00	-	47377	-
		17.50		7.519	191.00	5.118	130.00	-	47375	-

Descripción	No. de Piezas	Código
1/16-1/4" x 64 Avos	13	57711
1/16-1/2" x 64 Avos	29	57714
1 A 60 (Numérica)	60	57716
A a Z (Alfabética)	26	57718
1.0 a 13.0 x 0.5mm	25	57725
1/16-1/2" x 64 Avos, A a Z, 1 A 60	115	57728
1.0 a 13.0mm x 0.1mm	118	57727
1/16-1/2" x 1/64 Avos TiN	29	69861
1.0 a 13.0 x 0.5mm Cobalto	25	54127

 Ver página 191 para Información Técnica.

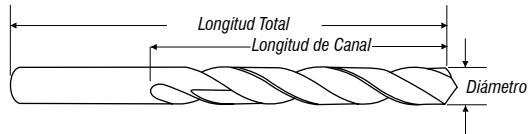
# ▶ LISTA: 550 BROCA JOBBER DE COBALTO



## Aplicaciones



## Características



Diámetro		Longitud Total		Longitud de Canal		Código
Fracional	Númerica	pulg	mm	pulg	mm	
1/64		3/4	19.05	3/16	4.76	46601
	73	1-1/8	28.58	5/16	7.94	46743
1/32		1-3/8	34.93	1/2	12.70	46602
3/64		1-3/4	44.45	3/8	9.53	46603
1/16		1-7/8	47.63	7/8	22.23	46604
5/64		2	50.80	1	25.40	46605
3/32		2-1/4	57.15	1-1/4	31.75	46606
	40	2-3/8	60.33	1-3/8	34.93	46710
7/64		2-5/8	66.68	1-1/2	38.10	46607
1/8		2-3/4	69.85	1-5/8	41.28	46608
	30	2-3/4	68.85	1-5/8	41.28	46700
9/64		2-7/8	73.03	1-3/4	44.45	46609
	27	3	76.20	1-7/8	47.63	46697
5/32		3-1/8	79.38	2	50.80	46610
11/64		3-1/4	82.55	2-1/8	53.98	46611
3/16		3-1/2	88.90	2-5/16	58.74	46612
	10	3-5/8	92.08	2-7/16	61.91	46680
13/64		3-5/8	92.08	2-7/16	61.91	46613
7/32		3-3/4	95.25	2-1/2	63.50	46614
15/64		3-7/8	98.43	2-5/8	66.68	46615
1/4-E		4	101.60	2-3/4	69.85	46616
17/64		4-1/8	104.78	2-7/8	73.03	46617
9/32		4-1/4	107.95	2-15/16	74.61	46618
19/64		4-3/8	111.13	3-1/16	77.79	46619
5/16		4-1/2	114.30	3-3/16	80.96	46620
21/64		4-5/8	117.48	3-5/16	84.14	46621
11/32		4-3/4	120.65	3-7/16	87.31	46622
23/64		4-7/8	123.83	3-1/2	88.90	46623
3/8		5	127.00	3-5/8	92.08	46624
25/64		5-1/8	130.18	3-3/4	95.25	46625
13/32		5-1/4	133.35	3-7/8	98.43	46626
27/64		5-3/8	136.53	3-15/16	100.01	46627
7/16		5-1/2	139.70	4-1/16	103.19	46628
29/64		5-5/8	142.88	4-3/16	106.36	46629
15/32		5-3/4	146.05	4-5/16	109.54	46630
31/64		5-7/8	149.23	4-3/8	111.13	46631
1/2		6	152.40	4-1/2	114.30	46632
33/64		6-5/8	168.27	4-13/16	122.24	50075
17/32		6-5/8	168.27	4-13/16	122.24	50076
35/64		6-5/8	168.27	4-13/16	122.24	50077
9/16		6-5/8	168.27	4-13/16	122.24	50078
5/8		7-1/8	190.98	5-3/16	131.76	50082
41/64		7-1/8	190.98	5-3/16	131.76	50083
21/32		7-1/8	190.98	5-3/16	131.76	50084
11/16		7-1/8	190.98	5-3/16	131.76	50086

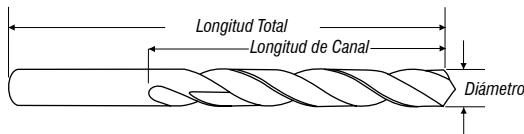
# ▶ LISTA: 120 BROCA SERIE LARGA



## Aplicaciones



## Características



Diámetro		Longitud Total		Longitud de Canal		Código
Fracional	Númerica	pulg	mm	pulg	mm	
	73	1-1/2	38.10	5/16	7.94	50363
	70	2	50.80	3/4	19.05	50360
1/32		2	50.80	3/4	19.05	49702
3/64		2-1/4	57.15	1-1/8	28.58	49703
1/16		3	76.20	1-3/4	44.45	49704
5/64		3-3/4	95.25	2	50.80	49705
3/32		4-1/4	107.95	2-1/4	57.15	49706
7/64		4-5/8	117.47	2-1/2	63.50	49707
1/8		5-1/8	130.17	2-3/4	69.85	49708
	29	5-3/8	136.53	3	76.20	50319
9/64		5-3/8	136.53	3	76.20	49709
5/32		5-3/8	136.53	3	76.20	49710
11/64		5-3/4	146.05	3-3/8	85.73	49711
3/16		5-3/4	146.05	3-3/8	85.73	49712
	9	6	152.40	3-5/8	92.07	50299
13/64		6	152.40	3-5/8	92.07	49713
7/32		6	152.40	3-5/8	92.07	49714
15/64		6-1/8	155.57	3-3/4	95.25	49715
1/4-E		6-1/8	155.57	3-3/4	95.25	49716
17/64		6-1/4	158.75	3-7/8	98.43	49717
9/32		6-1/4	158.75	3-7/8	98.43	49718
19/64		6-3/8	161.92	4	101.60	49719
5/16		6-3/8	161.92	4	101.60	49720
21/64		6-1/2	165.10	4-1/8	104.77	49721
11/32		6-1/2	165.10	4-1/8	104.77	49722
23/64		6-3/4	171.45	4-1/4	107.95	49723
3/8		6-3/4	171.45	4-1/4	107.95	49724
25/64		7	177.80	4-3/8	111.13	49725
13/32		7	177.80	4-3/8	111.13	49726
27/64		7-1/4	184.15	4-5/8	117.48	49727
7/16		7-1/4	184.15	4-5/8	117.48	49728
29/64		7-1/2	190.50	4-3/4	120.65	49729
15/32		7-1/2	190.50	4-3/4	120.65	49730
31/64		7-3/4	196.85	4-3/4	120.65	49731
1/2		7-3/4	196.85	4-3/4	120.65	49732
33/64		8	203.20	4-3/4	120.65	49733
17/32		8	203.20	4-3/4	120.65	49734
9/16		8-1/4	209.55	4-7/8	123.82	49736
19/32		8-3/4	222.25	4-7/8	123.82	49738
39/64		8-3/4	222.25	4-7/8	123.82	49739
5/8		8-3/4	222.25	4-7/8	123.82	49740
41/64		9	228.60	5-1/8	130.17	49741
21/32		9	228.60	5-1/8	130.17	49742
43/64		9-1/4	234.95	5-3/8	136.56	49743

USO GENERAL

Diámetro		Longitud de Canal		Longitud Total		Código
Fracional	Númerica	pulg	mm	pulg	mm	
11/16		5-3/8	136.56	9-1/4	234.95	49744
45/64		5-5/8	142.88	9-1/2	241.30	49745
23/32		5-5/8	142.88	9-1/2	241.30	49746
3/4		5-7/8	149.23	9-3/4	247.65	49748
49/64		6	152.40	9-7/8	250.82	49749
25/32		6	152.40	9-7/8	250.82	49750
51/64		6-1/8	155.58	10	254.00	49751
13/16		6-1/8	155.58	10	254.00	49752
53/64		6-1/8	155.58	10	254.00	49753
27/32		6-1/8	155.58	10	254.00	49754
55/64		6-1/8	155.58	10	254.00	49755
7/8		6-1/8	155.58	10	254.00	49756
57/64		6-1/8	155.58	10	254.00	49757
29/32		6-1/8	155.58	10	254.00	49758
59/64		6-1/8	155.58	10-3/4	273.05	49759
15/16		6-1/8	155.58	10-3/4	273.05	49760
61/64		6-3/8	161.92	11	279.40	49761
31/32		6-3/8	161.92	11	279.40	49762
63/64		6-3/8	161.92	11	279.40	49763
1		6-3/8	161.92	11	279.40	49764
1-1/32		6-1/2	165.10	11-1/8	252.80	49766
1-1/16		6-5/8	168.27	11-1/4	285.75	49768
1-3/32		6-7/8	174.73	11-1/2	292.10	49770
1-1/8		7-1/8	180.98	11-3/4	298.45	49772
1-3/16		7-3/8	187.33	12	304.80	49776
1-7/32		7-1/2	190.50	12-1/8	307.97	49778
1-1/4		7-7/8	200.02	12-1/2	317.50	49780
1-3/8		8-7/8	225.42	14-1/2	368.30	49788
1-7/8		9-1/8	231.77	14-3/4	374.65	49792

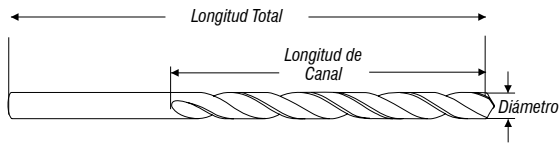
# ▶ LISTA: 120X BROCA EXTRALARGA



## Aplicaciones



## Características



Diámetro	Longitud de Canal	Long. Total	Código
Fracional	pulg	pulg	
3/32	5-1/2	8	50448
7/64	5-1/2	8	50455
1/8	5-1/2	8	50458
1/8	7-1/2	10	50460
1/8	9	12	50461
9/64	5-1/2	8	50463
9/64	7-1/2	10	50465
9/64	9	12	50466
5/32	5-1/2	8	50468
5/32	7-1/2	10	50717
5/32	9	12	50718
11/64	5-1/2	8	50471
11/64	9	12	50719
3/16	5-1/2	8	50720
3/16	7-1/2	10	50722
3/16	9	12	50723
13/64	5-1/2	8	50476
13/64	7-1/2	10	59725
13/64	9	12	50726
7/32	5-1/2	8	50479
7/32	7-1/2	10	50728
7/32	9	12	50729
15/64	5-1/2	8	50730
15/64	7-1/2	10	50731
15/64	9	12	50732
1/4	5-1/2	8	50485
1/4	7-1/2	10	50734
1/4	9	12	50735
17/64	5-1/2	8	50489
17/64	7-1/2	10	50736
17/64	9	12	50737
9/32	5-1/2	8	50493
9/32	7-1/2	10	50495
9/32	9	12	50738
19/64	5-1/2	8	50498
19/64	7-1/2	10	50500
19/64	9	12	50739
5/16	5-1/2	8	50503
5/16	7-1/2	10	50505
5/16	9	12	50740
21/64	5-1/2	8	50509
21/64	7-1/2	10	50511
21/64	9	12	50741
11/32	5-1/2	8	50514

USO GENERAL

<b>Diámetro</b>	<b>Longitud de Canal</b>	<b>Long. Total</b>	<b>Código</b>
<b>Fracional</b>	<b>pulg</b>	<b>pulg</b>	
11/32	7-1/2	10	50516
11/32	9	12	50742
23/64	5-1/2	8	50520
23/64	7-1/2	10	50522
23/64	9	12	50523
3/8	5-1/2	8	50527
3/8	7-1/2	10	50529
3/8	9	12	50743
13/32	5-1/2	8	50540
13/32	7-1/2	10	50746
13/32	9	12	50747
27/64	7-1/2	10	50546
27/64	9	12	50749
7/16	5-1/2	8	50550
7/16	7-1/2	10	50552
7/16	9	12	50750
29/64	7-1/2	10	50557
29/64	9	12	50558
15/32	5-1/2	8	50561
15/32	7-1/2	10	50563
15/32	9	12	50751
1/2	5-1/2	8	50570
1/2	7-1/2	10	50571
1/2	9	12	50572
33/64	7-1/2	10	50580
33/64	9	12	50581
17/32	7-1/2	10	50585
17/32	9	12	50586
35/64	9	12	50591
9/16	9	12	50596
39/64	9	12	50613
5/8	9	12	50619
41/64	9	12	50624
21/32	9	12	50629
11/16	9	12	50639
47/64	9	12	50654
3/4	9	12	50659



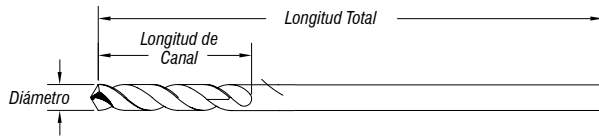
# ▶ LISTA: 906 & 912 BROCA AIRCRAFT



## Aplicaciones



## Características



Diámetro Fraccional	Longitud de Canal		Serie 906 6" Largo	Serie 912 12" Largo
	pulg	mm		
1/16	7/8	22.33	-	11096
3/32	1-1/4	31.75	11003	11098
1/8	1-5/8	41.28	11005	11100
9/64	1-3/4	44.45	-	11101
3/16	2-5/16	58.74	11009	11104
1/4-E	2-3/4	69.85	11013	11108
5/16	3-3/16	80.96	11018	11112
3/8	3-5/8	92.08	11022	11116
1/2	4-1/2	114.30	11030	11124

USO GENERAL

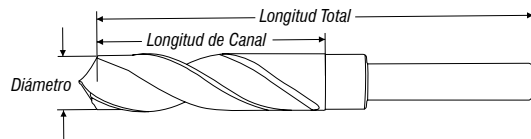
# ► LISTA: 190C BROCA ZANCO REDUCIDO A 1/2" DE COBALTO



## Aplicaciones



## Características



Diámetro Fraccional	Longitud Total		Longitud de Canal		Serie 190C	Serie 190C-TiN
	pulg	mm	pulg	mm		
1/2	6	152.40	3-1/8	79.38	53432	-
33/64	6	152.40	3-1/8	79.38	53433	-
17/32	6	152.40	3-1/8	79.38	53434	53634
35/64	6	152.40	3-1/8	79.38	53435	-
9/16	6	152.40	3-1/8	79.38	53436	53636
37/64	6	152.40	3-1/8	79.38	53437	-
19/32	6	152.40	3-1/8	79.38	53438	53638
39/64	6	152.40	3-1/8	79.38	53439	-
5/8	6	152.40	3-1/8	79.38	53440	53640
41/64	6	152.40	3-1/8	79.38	53441	-
21/32	6	152.40	3-1/8	79.38	53442	53642
43/64	6	152.40	3-1/8	79.38	53443	-
11/16	6	152.40	3-1/8	79.38	53444	53644
45/64	6	152.40	3-1/8	79.38	53445	-
23/32	6	152.40	3-1/8	79.38	53446	53646
47/64	6	152.40	3-1/8	79.38	53447	-
3/4	6	152.40	3-1/8	79.38	53448	53648
49/64	6	152.40	3-1/8	79.38	53449	-
25/32	6	152.40	3-1/8	79.38	53450	53650
51/64	6	152.40	3-1/8	79.38	53451	-
13/16	6	152.40	3-1/8	79.38	53452	53652
53/64	6	152.40	3-1/8	79.38	53453	-
27/32	6	152.40	3-1/8	79.38	53454	53654
55/64	6	152.40	3-1/8	79.38	53455	-
7/8	6	152.40	3-1/8	79.38	53456	53656
57/64	6	152.40	3-1/8	79.38	53457	-
29/32	6	152.40	3-1/8	79.38	53458	53658
59/64	6	152.40	3-1/8	79.38	53459	-
15/16	6	152.40	3-1/8	79.38	53460	53660
61/64	6	152.40	3-1/8	79.38	53461	-
31/32	6	152.40	3-1/8	79.38	53462	53662
63/64	6	152.40	3-1/8	79.38	53463	-
1	6	152.40	3-1/8	79.38	53464	53664
1-1/16	6	152.40	3-1/8	79.38	53468	-
1-1/8	6	152.40	3-1/8	79.38	53472	-
1-3/16	6	152.40	3-1/8	79.38	53475	-
1-1/4	6	152.40	3-1/8	79.38	53480	-
1-3/8	6	152.40	3-1/8	79.38	53488	-
1-1/2	6	152.40	3-1/8	79.38	53496	-

# ▶ LISTA: 120DH BROCA PARABÓLICA



## Aplicaciones



## Características



Diámetro Fraccional	Longitud Total		Longitud de Canal		Brillante	TiN
	pulg	mm	pulg	mm		
1/16	3	76.20	2	50.80	68804	55236
5/64	3-3/4	95.25	2-1/2	57.15	68805	55237
3/32	4-1/4	107.95	2-1/2	57.15	68806	55238
7/64	4-5/8	117.48	3-1/8	79.38	68807	55239
1/8	5-1/8	130.18	3-3/8	85.73	68808	55240
9/64	5-3/8	136.53	3-5/8	92.08	68809	55241
5/32	5-3/8	136.53	3-3/4	95.25	68810	55242
11/64	5-3/4	146.05	4-1/8	104.78	68811	55243
3/16	5-3/4	146.05	4-1/8	104.78	68812	55244
13/64	6	152.40	4-3/8	111.13	68813	55245
7/32	6	152.40	4-3/8	111.13	68814	55246
15/64	6-1/8	155.58	4-13/16	122.24	68815	55247
1/4-E	6-1/8	155.58	4-13/16	122.24	68816	55248
17/64	6-1/4	158.75	5	127.00	68817	55249
9/32	6-1/4	158.75	5	127.00	68818	55250
19/64	6-3/8	161.93	5-1/8	130.18	68819	55251
5/16	6-3/8	161.93	5-1/8	130.18	68820	55252
21/64	6-1/2	165.10	5-1/4	133.35	68821	55253
11/32	6-1/2	165.10	5-1/4	133.35	68822	55254
23/64	6-3/4	171.45	5-3/8	136.53	68823	55255
3/8	6-3/4	171.45	5-3/8	136.53	68824	55256
25/64	7	177.80	5-5/8	142.88	68825	55257
13/32	7	177.80	5-5/8	142.88	68826	55258
27/64	7-1/4	184.15	5-11/16	144.46	68827	55259
7/16	7-1/4	184.15	5-11/16	144.46	68828	55260
29/64	7-1/2	190.50	5-3/4	146.05	68829	55261
15/32	7-1/2	190.50	5-3/4	146.05	68830	55262
31/64	7-1/2	190.50	5-3/4	146.05	68831	55263
1/2	7-1/2	190.50	5-3/4	146.05	68832	55264
33/64	8	203.20	6	152.40	68833	55265
17/32	8	203.20	6	152.40	68834	55266
35/64	8-1/4	209.55	6-1/4	158.78	68835	55267
9/16	8-1/4	209.55	6-1/4	158.78	68836	55268
37/64	8-3/4	222.25	6-1/2	165.10	68837	55269
19/32	8-3/4	222.25	6-1/2	165.10	68838	55270
39/64	8-3/4	222.25	6-1/2	165.10	68839	55271
5/8	8-3/4	222.25	6-1/2	165.10	68840	55272

USO GENERAL

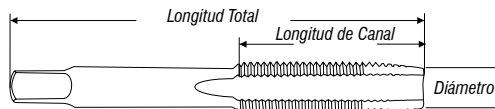
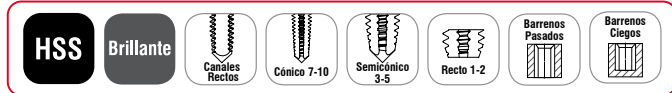
# ▶ LISTA: 3105 MACHUELOS HSS



## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud Total pulg	Longitud Cuerda pulg	Canales				
						Cónico	Semi-Cónico	Recto	Set
3	48 NC	H2	1-13/16	1/2	3	300512	-	-	-
3	56 NF	H2	1-13/16	1/2	3	300637	300645	300652	-
4	40 NC	H2	1-7/8	9/16	3	300819	300827	300835	341623
4	48 NF	H2	1-7/8	9/16	3	-	300942	300959	341649
5	40 NC	H2	1-15/16	5/8	3	-	301064	301072	341664
5	44 NF	H2	1-15/16	5/8	3	301171	301189	301197	341672
6	32 NC	H2	2	11/16	3	-	301338	301346	341698
6	32 NC	H3	2	11/16	3	-	-	301379	341706
6	40 NF	H2	2	11/16	3	301478	-	301494	-
8	32 NC	H2	2-1/8	3/4	4	-	-	-	341730
8	32 NC	H3	2-1/8	3/4	4	-	301759	301767	341748
8	36 NF	H2	2-1/8	3/4	4	-	301933	-	341755
10	24 NC	H2	2-3/8	7/8	4	-	-	-	341771
10	24 NC	H3	2-3/8	7/8	4	302195	302203	302211	341789
10	32 NF	H2	2-3/8	7/8	2	-	302260	-	341805
10	32 NF	H3	2-3/8	7/8	4	302468	302476	302484	341813
12	24 NC	H3	2-3/8	15/16	4	-	302534	302542	341821
12	28 NF	H3	2-3/8	15/16	4	302583	302591	-	341839
1/4	20 NC	H3	2-1/2	1	2	-	326004	-	-
1/4	20 NC	H3	2-1/2	1	4	305065	305073	305081	-
1/4	20 NC	H5	2-1/2	1	4	-	305107	305115	342522
1/4	28 NF	H3	2-1/2	1	4	305214	305222	-	342530
5/16	18 NC	H3	2-23/32	1-1/8	4	305396	305404	305412	-
5/16	18 NC	H5	2-23/32	1-1/8	4	-	305438	-	342555
5/16	24 NF	H3	2-23/32	1-1/8	4	-	305529	-	342563
3/8	16 NC	H3	2-15/16	1-1/4	4	305693	305701	305719	342589
3/8	24 NF	H3	2-15/16	1-1/4	4	-	305826	305834	342597
7/16	14 NC	H3	3-5/32	1-7/16	4	305990	306006	-	342605
7/16	20 NF	H3	3-5/32	1-7/16	4	306113	-	306139	342613
1/2	13 NC	H3	3-3/8	1-21/32	4	306295	306303	306311	-
1/2	13 NC	H5	3-3/8	1-21/32	4	-	-	306345	342621
1/2	20 NF	H3	3-3/8	1-21/32	4	306444	306451	306469	342639
1/2	20 NF	H5	3-3/8	1-21/32	4	-	306485	-	-
9/16	12 NC	H3	3-19/32	1-13/16	4	-	306634	306642	342647
9/16	18 NF	H3	3-19/32	1-13/16	4	306741	306758	306766	342654
5/8	11 NC	H3	3-13/16	1-13/16	4	-	306931	306949	-
5/8	11 NC	H5	3-13/16	1-13/16	4	-	306964	-	342662
5/8	18 NF	H3	3-13/16	1-13/16	4	-	-	307061	342670
11/16	11 NC	H3	4-1/32	1-13/16	4	307160	307178	-	-
11/16	16 NF	H3	4-1/32	1-13/16	4	307194	307202	-	342696
3/4	10 NC	H3	4-1/4	2	4	-	307350	307368	342704
3/4	16 NF	H3	2	4-1/4	4	307467	-	307483	342712

Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud Total pulgs	Longitud Cuerda pulgs	Canales	Cónico	Semi-Cónico	Recto	Set
7/8	9 NC	H4	2-7/32	4-11/16	4	307707	307715	-	342720
7/8	14 NF	H4	2-7/32	4-11/16	4	-	307830	307848	342738
1	8 NC	H4	2-1/2	5-1/8	4	308069	308077	308085	342746
1	12 NF	H4	2-1/2	5-1/8	4	-	308192	308200	-
1	14 NS	H4	5-1/8	2-1/2	4	308275	308283	308291	-
1-1/8	7 NC	H4	5-7/16	2-9/16	4	308424	308432	308440	-
1-1/8	12 NF	H4	5-7/16	2-9/16	4	308457	308465	308473	-
1-1/4	7 NC	H4	5-3/4	2-9/16	4	308549	308556	308564	-
1-1/4	12 NF	H4	5-3/4	2-9/16	6	308572	308580	308598	-
1-3/8	6 NC	H4	6-1/16	3	4	-	308671	-	-
1-3/8	12 NF	H4	6-1/16	3	6	-	-	308713	-
1-1/2	6 NC	H4	6-3/8	3	4	308788	308796	308804	-
1-1/2	12 NF	H4	6-3/8	3	6	308812	308820	-	-

Nota: Set de 3 piezas; un cónico, un semi cónico y un recto.

Diámetro Milimétrica	Paso	Ajuste	Longitud Total pulgs	Longitud de Cuerda pulgs	Canales	Cónico	Semi-Cónico	Recto
M4	0.7	D4	2-1/8	3/4	4	328273	328281	328299
M5	0.8	D4	2-3/8	7/8	4	328364	328372	328380
M6	1	D5	2-1/2	1	4	328422	328430	328448
M7	1	D5	2-23/32	1-1/8	4	-	328497	-
M8	1.25	D5	2-23/32	1-1/8	4	328547	328554	328562
M10	1.5	D6	2-15/16	1-1/4	4	328604	-	328620
M12	1.75	D6	3-3/8	1-21/32	4	329661	328679	328687
M14	2	D7	3-19/32	1-21/32	4	-	328760	328778
M16	2	D7	3-13/16	1-13/16	4	328810	328828	328836
M20	2.5	D7	4-15/32	2	4	328935	328943	328950

 Ver página 205 para Información Técnica.

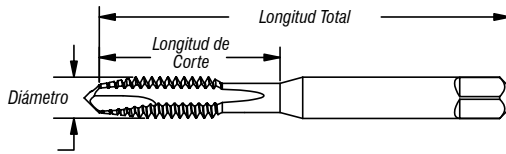
# ▶ LISTA: SPGP MACHUELOS PUNTA ESPIRAL



## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud Total pulgs	Longitud Corte pulgs	Canales	Brillante	Óxido al Vapor	TiN
0	80 UNF	H1	1-11/16	3/8	2	356002	-	-
0	80 UNF	H2	1-11/16	3/8	2	356027	330100	-
1	64 UNC	H2	1-11/16	3/8	2	356068	-	356061
1	72 UNF	H1	1-11/16	3/8	2	356084	-	-
1	72 UNF	H2	1-11/16	3/8	2	356102	-	356106
2	56 UNC	H2	1-3/4	7/16	2	356142	330101	356148
2	64 UNF	H2	1-3/4	7/16	2	356183	-	-
3	48 UNC	H2	1-13/16	1/2	2	356225	-	356221
3	56 UNF	H2	1-16/16	1/2	2	356266	-	356262
4	40 UNC	H1	1-7/8	9/16	2	356308	-	-
4	40 UNC	H2	1-7/8	9/16	2	356324	330102	356320
4	48 UNF	H2	1-7/8	9/16	2	356365	-	356361
5	40 UNC	H2	1-15/16	5/8	2	356407	330103	356403
6	32 UNC	H1	2	11/16	2	356421	-	-
6	32 UNC	H2	2	11/16	2	356422	330104	356486
6	32 UNC	H3	2	11/16	2	356506	330105	356502
6	32 UNC	H7	2	11/16	2	359005	-	-
6	40 UNF	H2	2	11/16	2	356548	-	356544
8	32 UNC	H2	2-1/8	3/4	2	356589	330106	-
8	32 UNC	H3	2-1/8	3/4	2	356633	330107	356602
8	32 UNC	H7	2-1/8	3/4	2	359047	-	330138
8	36 UNF	H2	2-1/8	3/4	2	356647	-	330139
10	24 UNC	H1	2-3/8	7/8	2	356662	-	-
10	24 UNC	H2	2-3/8	7/8	2	356688	-	330140
10	24 UNC	H3	2-3/8	7/8	2	356704	-	356703
10	24 UNC	H7	2-3/8	7/8	2	359088	-	330141
10	32 UNF	H2	2-3/8	7/8	2	356746	-	356742
10	32 UNF	H3	2-3/8	7/8	2	356761	-	356767
10	32 UNF	H7	2-3/8	7/8	2	359120	-	330142
12	24 UNC	H3	2-3/8	15/16	2	356803	330108	356809
12	28 UNF	H3	2-3/8	15/16	2	356845	-	356841
1/4	20 UNC	H1	2-1/2	1	2	357009	-	330143
1/4	20 UNC	H2	2-1/2	1	2	357025	330109	357021
1/4	20 UNC	H3	2-1/2	1	2	357041	330110	357047
1/4	20 UNC	H5	2-1/2	1	2	357066	-	357062
1/4	20 UNC	H11	2-1/2	1	2	330111	-	-
1/4	20 UNC	H3	2-1/2	1	3	357082	330112	357088
1/4	20 UNC	H5	2-1/2	1	3	357108	-	-
1/4	20 UNC	H13	2-1/2	1	2	358494	-	358490
1/4	28 UNF	H2	2	2-1/2	1	330113	-	-
1/4	28 UNF	H3	2	2-1/2	1	357165	330114	357161
1/4	28 UNF	H2	2	2-1/2	3	330115	-	-
5/16	18 UNC	H1	1-1/8	2-23/32	2	357249	-	-
5/16	18 UNC	H2	1-1/8	2-23/32	2	357264	-	330144

Diámetro Fraccional	Hilos por Pulgada	Ajuste	Longitud Total	Longitud Corte	Canales	Brillante	Óxido al Vapor	TiN
			pulg	pulg				
5/16	18 UNC	H3	2-23/32	1-1/8	2	357280	330116	357286
5/16	18 UNC	H5	2-23/32	1-1/8	2	357306	-	330145
5/16	18 UNC	H3	2-23/32	1-1/8	3	357322	330117	357328
5/16	18 UNC	H5	2-23/32	1-1/8	3	357348	-	357344
5/16	18 UNC	H13	2-23/32	1-1/8	3	358510	-	-
5/16	24 UNF	H1	2-23/32	1-1/8	2	357363	-	-
5/16	24 UNF	H3	2-23/32	1-1/8	2	357405	330118	357401
5/16	24 UNC	H4	2-23/32	1-1/8	3	330119	-	-
3/8	16 UNC	H2	2-15/16	1-1/4	3	357504	-	330146
3/8	16 UNC	H3	2-15/16	1-1/4	3	357520	330120	357526
3/8	16 UNC	H5	2-15/16	1-1/4	3	357546	-	357542
3/8	24 UNF	H1	2-15/16	1-1/4	3	357561	-	-
3/8	24 UNF	H2	2-15/16	1-1/4	3	357587	-	-
3/8	24 UNF	H3	2-15/16	1-1/4	3	357603	330121	357609
3/8	24 UNF	H4	2-15/16	1-1/4	3	357629	-	-
7/16	14 UNC	H2	3-5/32	1-7/16	3	357660	-	-
7/16	14 UNC	H3	3-5/32	1-7/16	3	357686	330122	357682
7/16	14 UNC	H5	3-5/32	1-7/16	3	357702	-	-
7/16	20 UNF	H3	3-5/32	1-7/16	3	357769	-	357765
7/16	20 UNF	H5	3-5/32	1-7/16	3	357785	-	-
1/2	13 UNC	H2	3-3/8	1-21/32	3	357819	-	-
1/2	13 UNC	H3	3-3/8	1-21/32	3	357827	330123	357823
1/2	13 UNC	H5	3-3/8	1-21/32	3	357835	-	357831
1/2	20 UNF	H3	3-3/8	1-21/32	3	357868	330125	357864
5/8	11 UNC	H3	3-13/16	1-13/16	3	357926	330126	357922
5/8	11 UNC	H5	3-13/16	1-13/16	3	357934	-	357930
5/8	18 UNF	H3	3-13/16	1-13/16	3	357942	330128	-
3/4	10 UNC	H3	4-1/4	2	3	357967	330129	357963
3/4	10 UNC	H5	4-1/4	2	3	357975	-	-
3/4	16 UNF	H3	4-1/4	2	3	330130	-	-

Diámetro Milimétrica	Paso	Ajuste	Longitud Total	Longitud Cuerda	Canales	Brillante	TiN	TiCN
			pulg	pulg				
M1.6	0.35	D3	1-3/4	7/16	2	360755	-	-
M1.8	0.35	D3	1-3/4	7/16	2	330131	-	-
M2	0.40	D3	1-3/4	7/16	2	360771	360774	-
M2.2	0.45	D3	1-3/4	7/16	2	330132	-	-
M2.5	0.45	D3	1-13/16	1/2	2	360797	-	-
M3	0.50	D3	1-15/16	5/8	2	360805	360801	330168
M3.5	0.60	D4	2	11/16	2	360821	-	-
M4	0.70	D4	2-1/8	3/4	2	360839	360835	330169
M4.5	0.75	D4	2-3/8	7/8	2	360854	-	-
M5	0.80	D4	2-3/8	7/8	2	360862	360868	330170
M6	1.00	D5	2-1/2	1	2	360888	360884	330171
M7	1.00	D5	2-23/32	1-1/8	2	360904	-	-
M8	1.00	D5	2-23/32	1-1/8	2	330133	-	-
M8	1.25	D5	2-23/32	1-1/8	2	360920	360926	330172
M10	1.25	D5	2-15/16	1-1/4	3	330134	-	-
M10	1.5	D6	2-15/16	1-1/4	3	360946	360942	330173
M12	1.25	D5	3-3/8	1-21/32	3	330135	330147	-
M12	1.75	D6	3-38	1-21/32	3	360961	360967	330174
M14	1.50	D6	3-19/32	1-21/32	3	330136	-	-
M14	2.00	D7	3-19/32	1-21/32	3	360995	-	-
M16	1.50	D6	3-13/16	1-13/16	3	330137	-	-
M16	2.00	D7	3-13/16	1-13/16	3	361019	-	-
M20	2.50	D7	3-13/16	1-13/16	3	361050	-	-

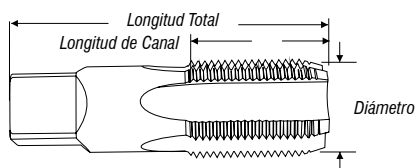
# ▶ LISTA: 3181 MACHUELOS NPS



## Aplicaciones



## Características



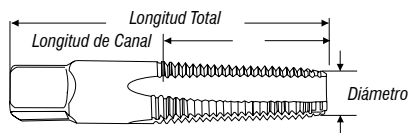
Diámetro Fraccional	Hilos por Pulgada	Longitud Total		Longitud de Cuerda		Canales	Código
		pulg	mm	pulg	mm		
1/8	27	2-1/8	53.97	3/4	19.05	4	387113
1/4	18	2-7/16	61.91	1-1/16	26.99	4	387121

# ▶ LISTA: 3180 MACHUELO NPT

## Aplicaciones



## Características



Diámetro Fraccional	Hilos por Pulgada	Longitud Total		Longitud de Cuerda		Canales	Código
		pulg	mm	pulg	mm		
1/6	27	2-1/8	53.98	11/16	17.46	4	385307
1/8	27	2-1/8	53.98	3/4	19.05	4	385364
1/4	18	2-7/16	61.91	1-1/16	26.99	4	385398
3/8	18	2-9/16	65.09	1-1/16	26.99	4	385422
1/2	14	3-1/8	79.38	1-3/8	34.93	4	385455
3/4	14	3-1/8	79.38	1-3/8	34.93	5	385489
1	11.5	3-3/4	95.25	1-3/4	44.45	5	385513
1-1/4	11.5	4	101.60	1-3/4	44.45	5	385547
1-1/2	11.5	4-1/4	107.95	1-3/4	44.45	7	385570
2	11.5	4-1/2	114.30	1-3/4	44.45	7	385604





# 2020 CATÁLOGO



**CARBURO  
USO GENERAL**

[www.herramientascleveland.com](http://www.herramientascleveland.com)



USO GENERAL



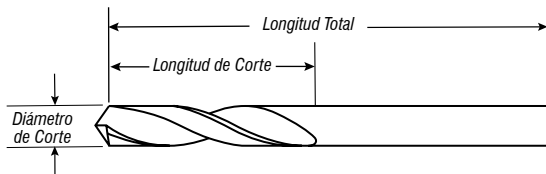
# ▶ LISTA: 5010 BROCA JOBBER



## Aplicaciones



## Características



Fraccional	Diámetro		Longitud de Canal	Longitud Total	Brillante	TiAlN
	Decimal	Milimétrica				
1/32	0.0312		5/16	1-1/4	C111002	C111002TIALN
3/64	0.0469		3/4	1-1/2	C111003	C111003TIALN
1/16	0.0625		3/4	1-1/2	C111004	C111004TIALN
5/64	0.0781		7/8	1-3/4	C111005	C111005TIALN
3/32	0.0938		1	2	C111006	C111006TIALN
7/64	0.1094		1-1/4	2-1/4	C111007	C111007TIALN
	0.1181	3.00	1-1/4	2-1/4	C114030	C114030TIALN
1/8	0.1250		1-1/4	2-1/4	C111008	C111008TIALN
	0.1378	3.50	1-3/8	2-1/2	C114035	C114035TIALN
9/64	0.1406		1-3/8	2-1/2	C111009	C111009TIALN
5/32	0.1563		1-3/8	2-1/2	C111010	C111010TIALN
	0.1575	4.00	1-3/8	2-1/2	C114040	C114040TIALN
11/64	0.1719		1-5/8	2-3/4	C111011	C111011TIALN
	0.1772	4.50	1-5/8	2-3/4	C114045	C114045TIALN
3/16	0.1875		1-5/8	2-3/4	C111012	C111012TIALN
	0.1969	5.00	1-3/4	3	C114050	C114050TIALN
13/64	0.2031		1-3/4	3	C111013	C111013TIALN
	0.2165	5.50	1-3/4	3	C114055	C114055TIALN
7/32	0.2188		1-3/4	3	C111014	C111014TIALN
15/64	0.2344		2	3-1/4	C111015	C111015TIALN
	0.2362	6.00	2	3-1/4	C114060	C114060TIALN
1/4	0.2500		2	3-1/4	C111016	C111016TIALN
	0.2559	6.50	2	3-1/4	C114065	C114065TIALN
17/64	0.2656		2-1/8	3-1/2	C111017	C111017TIALN
	0.2756	7.00	2-1/8	3-1/2	C114070	C114070TIALN
9/32	0.2812		2-1/8	3-1/2	C111018	C111018TIALN
	0.2953	7.50	2-3/8	3-3/4	C114075	C114075TIALN
19/64	0.2969		2-3/8	4	C111019	C111019TIALN
5/16	0.3125		2-3/8	4	C111020	C111020TIALN
	0.3150	8.00	2-3/8	3-3/4	C114080	C114080TIALN
21/64	0.3281		2-3/8	4	C111021	C111021TIALN
	0.3346	8.50	2-1/2	4	C114085	C114085TIALN
11/32	0.3438		2-3/8	4	C111022	C111022TIALN
	0.3543	9.00	2-1/2	4	C114090	C114090TIALN
23/64	0.3594		2-3/4	4-1/4	C111023	C111023TIALN
	0.3740	9.50	2-3/4	4-1/4	C114095	C114095TIALN
3/8	0.3750		2-3/4	4-1/4	C111024	C111024TIALN
25/64	0.3906		2-7/8	4-1/2	C111025	C111025TIALN
	0.3937	10.00	2-7/8	4-1/2	C114100	C114100TIALN
13/32	0.4062		2-7/8	4-1/2	C111026	C111026TIALN
	0.4134	10.50	2-7/8	4-1/2	C114105	C114105TIALN
27/64	0.4219		2-7/8	4-1/2	C111027	C111027TIALN
	0.4331	11.00	2-7/8	4-1/2	C114110	C114110TIALN
7/16	0.4375		2-7/8	4-1/2	C111028	C111028TIALN

USO GENERAL



Fraccional	Diámetro		Longitud de Canal	Longitud Total	Brillante	TiAlN
	Decimal	Milimétrica				
	0.4528	11.50	3	4-3/4	C114115	C114115TIALN
29/64	0.4531		3	4-3/4	C111029	C111029TIALN
15/32	0.4688		3	4-3/4	C111030	C111030TIALN
	0.4724	12.00	3	4-3/4	C114120	C114120TIALN
31/64	0.4844		3	4-3/4	C111031	C111031TIALN
1/2	0.5000		3	4-3/4	C111032	C111032TIALN
17/32	0.5313		4	6	C111034	C111034TIALN
9/16	0.5625		4	6	C111036	C111036TIALN
19/32	0.5938		4	6	C111038	C111038TIALN
5/8	0.6250		4	6	C111040	C111040TIALN
21/32	0.6563		4	6	C111042	C111042TIALN
11/16	0.6875		4	6	C111044	C111044TIALN
23/32	0.7188		4	6	C111046	C111046TIALN
3/4	0.7500		4	6	C111048	C111048TIALN
7/8	0.8750		4	6	C111056	C111056TIALN
1	1.0000		4	6	C111064	C111064TIALN

 Ver página 198 para Información Técnica.

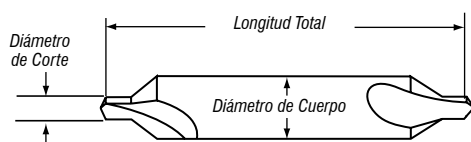
## ► LISTA: 5040 BROCA PARA CENTROS



### Aplicaciones



### Características



Número	Diámetro de Corte		Diámetro de Cuerpo	Longitud de Broca	Longitud Total	Código
	Fraccional	Decimal				
1	3/64	0.047	1/8	0.0469	1-1/2	C121001
2	5/64	0.078	3/16	0.0781	2	C121002
3	7/64	0.109	1/4	0.1094	2	C121003
4	1/8	0.125	5/16	0.125	2-1/8	C121004
5	3/16	0.188	7/16	0.1875	2-3/4	C121005
6	7/32	0.219	1/2	0.2188	3	C121006

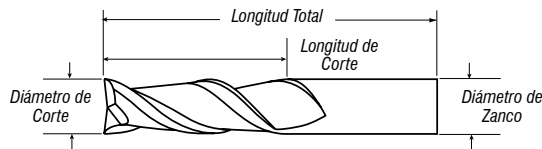
# ▶ LISTA: 2050 CORTADOR RECTO 2 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
	Decimal	Milimétrica						
1/16	0.0625	1.59	1/8	3/16	1-1/2	2	C141004	C141104
5/64	0.0781	1.98	1/8	3/16	1-1/2	2	C141005	C141105
3/32	0.0938	2.38	1/8	3/8	1-1/2	2	C141006	C141106
7/64	0.1094	2.78	1/8	3/8	1-1/2	2	C141007	C141107
1/8	0.1250	3.18	1/8	1/2	1-1/2	2	C141008	C141108
9/64	0.1406	3.57	3/16	9/16	2	2	C141009	C141109
5/32	0.1563	3.97	5/32	9/16	2	2	C141010	C141110
3/16	0.1875	4.75	3/16	5/8	2	2	C141012	C141112
13/64	0.2031	5.16	1/4	5/8	2-1/2	2	C141013	C141113
7/32	0.2188	5.56	1/4	5/8	2-1/2	2	C141014	C141114
15/64	0.2344	5.95	1/4	3/4	2-1/2	2	C141015	C141115
1/4	0.2500	6.35	1/4	3/4	2-1/2	2	C141016	C141116
17/64	0.2656	6.75	5/16	3/4	2-1/2	2	C141017	C141117
9/32	0.2813	7.14	5/16	3/4	2 1/2	2	C141018	C141118
19/64	0.2969	7.54	5/16	13/16	2 1/2	2	C141019	C141119
5/16	0.3125	7.94	5/16	13/16	2-1/2	2	C141020	C141120
21/64	0.3281	8.33	3/8	1	2-1/2	2	C141021	C141121
11/32	0.3438	8.73	3/8	1	2-1/2	2	C141022	C141122
23/64	0.3594	9.13	3/8	1	2-1/2	2	C141023	C141123
3/8	0.3750	9.53	3/8	1	2-1/2	2	C141024	C141124
25/64	0.3906	9.92	7/16	1	2-1/2	2	C141025	C141125
13/32	0.4063	10.32	7/16	1	2-1/2	2	C141026	C141126
27/64	0.4219	10.72	7/16	1	2-1/2	2	C141027	C141127
7/16	0.4375	11.11	7/16	1	2-1/2	2	C141028	C141128
29/64	0.4531	11.51	1/2	1	3	2	C141029	C141129
15/32	0.4688	11.91	1/2	1	3	2	C141030	C141130
31/64	0.4844	12.30	1/2	1	3	2	C141031	C141131
1/2	0.5000	12.70	1/2	1	3	2	C141032	C141132
9/16	0.5625	14.29	9/16	1 1/4	3-1/2	2	C141036	C141136
5/8	0.6250	15.88	5/8	1 1/4	3-1/2	2	C141040	C141140
3/4	0.7500	19.05	3/4	1 1/2	4	2	C141048	C141148
7/8	0.8750	22.23	7/8	1 1/2	4	2	C141056	C141156
1	1.0000	25.40	1	1 1/2	4	2	C141064	C141164

USO GENERAL



## Longitud Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	3/4	2-1/4	2	C141208	C141308
3/16	0.1875	4.76	3/16	3/4	2-1/2	2	C141212	C141312
1/4	0.2500	6.35	1/4	1-1/8	3	2	C141216	C141316
5/16	0.3125	7.94	5/16	1-1/8	3	2	C141220	C141320
3/8	0.3750	9.53	3/8	1-1/8	3	2	C141224	C141324
7/16	0.4375	11.11	7/16	2	4	2	C141228	C141328
1/2	0.5000	12.7	1/2	2	4	2	C141238	C141338
5/8	0.6250	15.88	5/8	2-1/4	5	2	C141240	C141340
3/4	0.7500	19.05	3/4	2-1/4	5	2	C141248	C141348
1	1.0000	25.40	1	2-1/4	5	2	C141264	C141364

## Longitud Extra Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	1	3	2	C141206	C141306
3/16	0.1875	4.76	3/16	1-1/8	3	2	C141214	C141314
1/4	0.2500	6.35	1/4	1-1/2	6	2	C141219	C141319
5/16	0.3125	7.94	5/16	1-5/8	4	2	C141222	C141322
3/8	0.3750	9.53	3/8	1-1/2	6	2	C141227	C141327
7/16	0.4375	11.11	7/16	3	6	2	C141230	C141330
1/2	0.5000	12.7	1/2	3	6	2	C141236	C141336
5/8	0.6250	15.88	5/8	3	6	2	C141242	C141342
3/4	0.7500	19.05	3/4	3	6	2	C141250	C141350
1	1.0000	25.40	1	3	6	2	C141268	C141368

 Ver página 202 para Información Técnica.

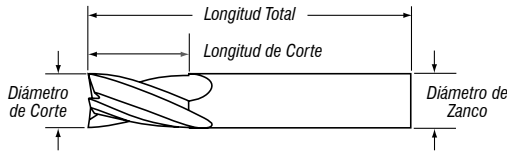
# ▶ LISTA: 2060 CORTADOR RECTO 4 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
	Decimal	Milimétrica						
1/32	0.0312	0.79	1/8	3/32	1-1/2	4	C141702	C141802
3/64	0.0469	1.19	1/8	1/8	1-1/2	4	C141703	C141803
1/16	0.0625	1.59	1/8	1/4	1-1/2	4	C141704	C141804
5/64	0.0781	1.98	1/8	3/16	1-1/2	4	C141705	C141805
3/32	0.0938	2.38	1/8	3/8	1-1/2	4	C141706	C141806
7/64	0.1094	2.78	1/8	3/8	1-1/2	4	C141707	C141807
1/8	0.1250	3.18	1/8	1/2	1-1/2	4	C141708	C141808
9/64	0.1406	3.57	3/16	9/16	2	4	C141709	C141809
5/32	0.1563	3.97	3/16	9/16	2	4	C141710	C141810
11/64	0.1719	4.36	3/16	9/16	2	4	C141711	C141811
3/16	0.1875	4.76	3/16	5/8	2	4	C141712	C141812
13/64	0.2031	5.16	1/4	5/8	2-1/2	4	C141713	C141813
7/32	0.2188	5.56	1/4	5/8	2-1/2	4	C141714	C141814
15/64	0.2344	5.95	1/4	3/4	2-1/2	4	C141715	C141815
1/4	0.2500	6.35	1/4	3/4	2-1/2	4	C141716	C141816
17/64	0.2656	6.75	5/16	3/4	2-1/2	4	C141717	C141817
9/32	0.2813	7.14	5/16	3/4	2-1/2	4	C141718	C141818
19/64	0.2969	7.54	5/16	13/16	2-1/2	4	C141719	C141819
5/16	0.3125	7.94	5/16	13/16	2-1/2	4	C141720	C141820
21/64	0.3281	8.33	3/8	1	2-1/2	4	C141721	C141821
11/32	0.3438	8.73	3/8	1	2-1/2	4	C141722	C141822
23/64	0.3594	9.13	3/8	1	2-1/2	4	C141723	C141823
3/8	0.3750	9.53	3/8	7/8	2-1/2	4	C141724	C141824
25/64	0.3906	9.92	7/16	1	2-1/2	4	C141725	C141825
13/32	0.4063	10.32	7/16	1	2-1/2	4	C141726	C141826
27/64	0.4219	10.72	7/16	1	2-1/2	4	C141727	C141827
7/16	0.4375	11.11	7/16	1	2-1/2	4	C141728	C141828
29/64	0.4531	11.51	1/2	1	3	4	C141729	C141829
15/32	0.4688	11.91	1/2	1	3	4	C141730	C141830
31/64	0.4844	12.30	1/2	1	3	4	C141731	C141831
1/2	0.5000	12.70	1/2	1	3	4	C141732	C141832
9/16	0.5625	14.29	9/16	1-1/4	3-1/2	4	C141736	C141836
5/8	0.6250	15.88	5/8	1-1/4	3-1/2	4	C141740	C141840
3/4	0.7500	19.05	3/4	1-1/2	4	4	C141748	C141848
7/8	0.8750	22.23	7/8	1-1/2	4	4	C141756	C141856
1	1.0000	25.40	1	1-1/2	4	4	C141764	C141864

USO GENERAL



## Longitud Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	3/4	2-1/4	4	C141908	C142008
3/16	0.1875	4.76	3/16	3/4	3-1/2	4	C141912	C142012
1/4	0.2500	6.35	1/4	1-1/8	3	4	C141916	C142016
5/16	0.3125	7.94	5/16	1-1/8	3	4	C141920	C142020
3/8	0.3750	9.53	3/8	1-1/8	3	4	C141924	C142024
7/16	0.4375	11.11	7/16	2	4	4	C141928	C142028
1/2	0.5000	12.7	1/2	2	4	4	C141932	C142032
5/8	0.6250	15.88	5/8	2-1/4	5	4	C141940	C142040
3/4	0.7500	19.05	3/4	2-1/4	5	4	C141948	C142048
7/8	0.8750	22.23	7/8	2-1/4	5	4	C141952	C142052

## Longitud Extra Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	1	3	4	C141910	C142010
3/16	0.1875	4.76	3/16	1-1/8	3	4	C141913	C142013
1/4	0.2500	6.35	1/4	1-1/2	6	4	C141919	C142019
5/16	0.3125	7.94	5/16	1-5/8	4	4	C141922	C142022
3/8	0.3750	9.53	3/8	1-1/2	6	4	C141926	C142026
7/16	0.4375	11.11	7/16	3	6	4	C141929	C142029
1/2	0.5000	12.7	1/2	3	6	4	C141936	C142036
5/8	0.6250	15.88	5/8	3	6	4	C141942	C142942
3/4	0.7500	19.05	3/4	3	6	4	C141950	C142050
7/8	0.8750	22.23	7/8	3	6	4	C141954	C142054
1	1.0000	25.4	1	3	6	4	C141964	C142064

 Ver página 202 para Información Técnica.



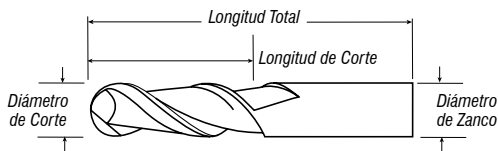
# ▶ LISTA: 2055 CORTADOR BOLA 2 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
	Decimal	Milimétrica						
1/16	0.0625	1.59	1/8	1/4	1-1/2	2	C141404	C141504
5/64	0.0781	1.98	1/8	3/16	1-1/2	2	C141405	C141505
3/32	0.0938	2.38	1/8	3/8	1-1/2	2	C141406	C141506
7/64	0.1094	2.78	1/8	3/8	1-1/2	2	C141407	C141507
1/8	0.1250	3.18	1/8	1/2	1-1/2	2	C141408	C141508
9/64	0.1406	3.57	3/16	9/16	2	2	C141409	C141509
5/32	0.1563	3.97	3/16	9/16	2	2	C141410	C141510
11/64	0.1719	4.37	3/16	5/8	2	2	C141411	C141511
3/16	0.1875	4.76	3/16	5/8	2	2	C141412	C141512
13/64	0.2031	5.16	1/4	5/8	2-1/2	2	C141413	C141513
7/32	0.2188	5.56	1/4	5/8	2-1/2	2	C141414	C141514
15/64	0.2344	5.95	1/4	3/4	2-1/2	2	C141415	C141515
1/4	0.2500	6.35	1/4	3/4	2-1/2	2	C141416	C141516
17/64	0.2656	6.75	5/16	3/4	2-1/2	2	C141417	C141517
9/32	0.2813	7.14	5/16	3/4	2-1/2	2	C141418	C141518
19/64	0.2969	7.54	5/16	13/16	2-1/2	2	C141419	C141519
5/16	0.3125	7.94	5/16	13/16	2-1/2	2	C141420	-
21/64	0.3281	8.33	3/8	1	2-1/2	2	C141421	C141521
11/32	0.3438	8.73	3/8	1	2-1/2	2	C141422	C141522
23/64	0.3594	9.13	3/8	1	2-1/2	2	C141423	C141523
3/8	0.3750	9.53	3/8	1	2-1/2	2	C141424	C141524
25/64	0.3906	9.92	7/16	1	2-1/2	2	C141425	C141525
13/32	0.4063	10.32	7/16	1	2-1/2	2	C141426	C141526
27/64	0.4219	10.72	7/16	1	2-1/2	2	C141427	C141527
7/16	0.4375	11.11	7/16	1	2-1/2	2	C141428	C141528
29/64	0.4531	11.51	1/2	1	3	2	C141429	C141529
15/32	0.4688	11.91	1/2	1	3	2	C141430	C141530
31/64	0.4844	12.30	1/2	1	3	2	C141431	C141531
1/2	0.5000	12.70	1/2	1	3	2	C141432	C141532
9/16	0.5625	14.29	9/16	1-1/4	3-1/2	2	C141436	C141536
5/8	0.6250	15.88	5/8	1-1/4	3-1/2	2	C141440	C141540
3/4	0.7500	19.05	3/4	1-1/2	4	2	C141448	C141548
7/8	0.8750	22.23	7/8	1-1/2	4	2	C141456	C141556
1	1.000	25.40	1	1-1/2	4	2	C141464	C141564

USO GENERAL



## Longitud Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	3/4	2 1/4	2	C142508	C141608
3/16	0.1875	4.76	3/16	3/4	2 1/2	2	C142512	C141612
1/4	0.2500	6.35	1/4	1	3	2	C142516	C141616
5/16	0.3125	7.94	5/16	1-1/8	3	2	C142520	C141620
3/8	0.3750	9.53	3/8	1-1/8	3	2	C142525	C141625
7/16	0.4375	11.11	7/16	2	4	2	C142528	C141628
1/2	0.5000	12.7	1/2	3	4	2	C142538	C141638
3/4	0.7500	19.05	3/4	2-1/4	5	2	C142548	C141648

## Longitud Extra Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	1	3	2	C142510	C141610
3/16	0.1875	4.76	3/16	1-1/8	3	2	C142514	C141614
1/4	0.2500	6.35	1/4	1-1/2	6	2	C142519	C141619
5/16	0.3125	7.94	5/16	1-5/8	4	2	C142522	C141622
3/8	0.3750	9.53	3/8	1-1/2	6	2	C142527	C141627
7/16	0.4375	11.11	7/16	3	6	2	C142530	C141630
1/2	0.5000	12.7	1/2	2	6	2	C142534	C141634
5/8	0.6250	15.88	5/8	3	6	2	C142542	C141642
3/4	0.7500	19.05	3/4	3	6	2	C142550	C141650
1	1.0000	25.40	1	3	6	2	C142566	C141666

 Ver página 202 para Información Técnica.

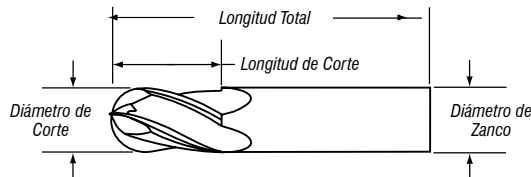
# ▶ LISTA: 2065 CORTADOR BOLA 4 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
	Decimal	Milimétrica						
1/32	0.0312	0.79	1/8	3/32	1-1/2	4	C142102	C142202
3/64	0.0469	1.19	1/8	1/8	1-1/2	4	C142103	C142203
1/16	0.0625	1.59	1/8	1/4	1-1/2	4	C142104	C142204
5/64	0.0781	1.98	1/8	3/16	1-1/2	4	C142105	C142205
3/32	0.0938	2.38	1/8	3/8	1-1/2	4	C142106	C142206
7/64	0.1094	2.78	1/8	3/8	1-1/2	4	C142107	C142207
1/8	0.1250	3.18	1/8	1/2	1-1/2	4	C142108	C142208
9/64	0.1406	3.57	3/16	9/16	2	4	C142109	C142209
5/32	0.1563	3.97	3/16	9/16	2	4	C142110	C142210
11/64	0.1719	4.37	3/16	9/16	2	4	C142111	C142211
3/16	0.1875	4.76	3/16	5/8	2	4	C142112	C142212
13/64	0.2031	5.16	1/4	5/8	2-1/2	4	C142113	C142213
7/32	0.2188	5.56	1/4	5/8	2-1/2	4	C142114	C142214
15/64	0.2344	5.95	1/4	3/4	2-1/2	4	C142115	C142215
1/4	0.2500	6.35	1/4	3/4	2-1/2	4	C142116	C142216
17/64	0.2656	6.75	5/16	3/4	2-1/2	4	C142117	C142217
9/32	0.2813	7.14	5/16	3/4	2-1/2	4	C142118	C142218
19/64	0.2969	7.54	5/16	13/16	2-1/2	4	C142119	C142219
5/16	0.3125	7.94	5/16	13/16	2-1/2	4	C142120	C142220
21/64	0.3281	8.33	3/8	1	2-1/2	4	C142121	C142221
11/32	0.3438	8.73	3/8	1	2-1/2	4	C142122	C142222
23/64	0.3594	9.13	3/8	1	2-1/2	4	C142123	C142223
3/8	0.3750	9.53	3/8	1	2-1/2	4	C142124	C142224
25/64	0.3906	9.92	7/16	1	2-1/2	4	C142125	C142225
13/32	0.4063	10.32	7/16	1	2-1/2	4	C142126	C142226
27/64	0.4219	10.72	7/16	1	2-1/2	4	C142127	C142227
7/16	0.4375	11.11	7/16	1	2-1/2	4	C142128	C142228
29/64	0.4531	11.51	1/2	1	3	4	C142129	C142229
15/32	0.4688	11.91	1/2	1	3	4	C142130	C142230
31/64	0.4844	12.30	1/2	1	3	4	C142131	C142231
1/2	0.5000	12.70	1/2	1	3	4	C142132	C142232
9/16	0.5625	14.29	9/16	1-1/4	3-1/2	4	C142136	C142236
5/8	0.6250	15.88	5/8	1-1/4	3-1/2	4	C142140	C142240
3/4	0.7500	19.05	3/4	1-1/2	4	4	C142148	C142248
7/8	0.8750	22.23	7/8	1-1/2	4	4	C142156	C142256
1	1.0000	25.40	1	1-1/2	4	4	C142164	C142264

USO GENERAL



## Longitud Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	3/4	2 1/4	4	C142308	C142408
3/16	0.1875	4.76	3/16	3/4	2 1/2	4	C142312	C142412
1/4	0.2500	6.35	1/4	1 1/8	3	4	C142316	C142416
5/16	0.3125	7.94	5/16	1 1/8	3	4	C142320	C142420
3/8	0.3750	9.53	3/8	1 1/8	3	4	C142324	C142424
7/16	0.4375	11.11	7/16	2	4	4	C142328	C142428
1/2	0.5000	12.7	1/2	2	4	4	C142332	C142432
5/8	0.6250	15.88	5/8	2 1/4	5	4	C142340	C142440
3/4	0.7500	19.05	3/4	2 1/4	5	4	C142348	C142448

## Longitud Extra Larga

Fraccional	Diámetro		Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
	Decimal	Milimétrica						
1/8	0.1250	3.18	1/8	1	3	4	C142310	C142410
3/16	0.1875	4.76	3/16	1 1/8	3	4	C142314	C142414
1/4	0.2500	6.35	1/4	1 1/2	6	4	C142318	C142418
5/16	0.3125	7.94	5/16	1 5/8	4	4	C142321	C142421
3/8	0.3750	9.53	3/8	1 1/2	6	4	C142326	C142426
7/16	0.4375	11.11	7/16	3	6	4	C142330	C142430
1/2	0.5000	12.7	1/2	3	6	4	C142336	C142436
5/8	0.6250	15.88	5/8	3	6	4	C142342	C142442
3/4	0.7500	19.05	3/4	3	6	4	C142350	C142450
1	1.0000	25.40	1	3	6	4	C142364	C142464

 Ver página 202 para Información Técnica.

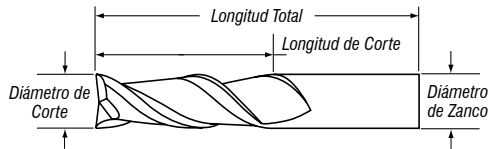
# ▶ LISTA: 2070 CORTADOR RECTO 2 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
1.0	3	3	38	2	C162010	C166010
1.5	3	5	38	2	C162015	C166015
2.0	3	6	38	2	C162020	C166020
2.5	3	7	38	2	C162025	C166025
3.0	3	12	38	2	C162030	C166030
3.5	4	12	50	2	C162035	C166035
4.0	4	14	50	2	C162040	C166040
4.5	5	14	50	2	C162045	C166045
5.0	5	16	50	2	C162050	C166050
6.0	6	19	63	2	C162060	C166060
7.0	8	19	63	2	C162070	C166070
8.0	8	19	63	2	C162080	C166080
9.0	10	22	70	2	C162090	C166090
10.0	10	22	70	2	C162100	C166100
12.0	12	25	75	2	C162120	C166120
14.0	14	30	88	2	C162140	C166140
16.0	16	32	88	2	C162160	C166160
18.0	18	36	100	2	C162180	C166180
20.0	20	38	100	2	C162200	C166200
22.0	22	38	100	2	C162220	C166220
25.0	25	38	100	2	C162250	C166250

## Longitud Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
3.0	3	25	65	2	C162403	C162503
4.0	4	25	65	2	C162404	C162504
5.0	5	25	75	2	C162405	C162505
6.0	6	25	75	2	C162406	C162506
8.0	8	25	75	2	C162408	C162508
10.0	10	38	100	2	C162410	C162510
12.0	12	50	100	2	C162412	C162512
14.0	14	56	125	2	C162414	C162514
16.0	16	75	150	2	C162416	C162516
18.0	18	75	150	2	C162418	C162518
20.0	20	75	150	2	C162420	C162520
25.0	25	75	150	2	C162425	C162525

USO GENERAL



## Longitud Extra Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
6	75	150	2	2	C162806	C162906
8	75	150	2	2	C162808	C162908
10	75	150	2	2	C162810	C162910
12	75	150	2	2	C162812	C162912
14	75	150	2	2	C162814	C162914

 Ver página 202 para Información Técnica.

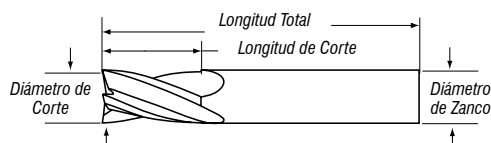
## ▶ LISTA: 2080 CORTADOR RECTO 4 CANALES



### Aplicaciones



### Características



## Longitud Estándar

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAlN
1.0	3	3	38	4	C161010	C165010
1.5	3	5	38	4	C161015	C165015
2.0	3	6	38	4	C161020	C165020
2.5	3	7	38	4	C161025	C165025
3.0	3	12	38	4	C161030	C165030
3.5	4	12	50	4	C161035	C165035
4.0	4	14	50	4	C161040	C165040
4.5	5	14	50	4	C161045	C165045
5.0	5	16	50	4	C161050	C165050
6.0	6	19	63	4	C161060	C165060
7.0	8	19	63	4	C161070	C165070
8.0	8	19	63	4	C161080	C165080
9.0	10	22	70	4	C161090	C165090
10.0	10	22	70	4	C161100	C165100
12.0	12	25	75	4	C161120	C165120
14.0	14	30	88	4	C161140	C165140
16.0	16	32	88	4	C161160	C165160
18.0	18	36	100	4	C161180	C165180
20.0	20	38	100	4	C161200	C165200
22.0	22	38	100	4	C161220	C165220
25.0	25	38	100	4	C161250	C165250

## Longitud Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
3.0	3	25	65	4	C167203	C167403
4.0	4	25	65	4	C167204	C167404
5.0	5	25	75	4	C167205	C167405
6.0	6	25	75	4	C167206	C167406
8.0	8	25	75	4	C167208	C167408
10.0	10	38	100	4	C167210	C167410
12.0	12	50	100	4	C167212	C167412
14.0	14	56	125	4	C167214	C167414
16.0	16	75	150	4	C167216	C167416
18.0	18	75	150	4	C167218	C167418
20.0	20	75	150	4	C167221	C167420
25.0	25	75	150	4	C167225	C167425

## Longitud Extra Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Brillante	TiAIN
6.0	6	75	150	4	C167706	C167906
8.0	8	75	150	4	C167708	C167908
10.0	10	75	150	4	C167710	C167910
12.0	12	75	150	4	C167712	C167912
14.0	14	75	150	4	C167714	C167914

 Ver página 202 para Información Técnica.

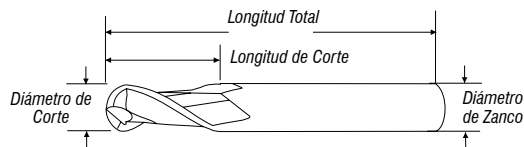
# ▶ LISTA: 2075 CORTADOR RECTO 2 CANALES



## Aplicaciones



## Características



## Longitud Estándar

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAlN
1.0	3	3	38	2	C164010	C168010
1.5	3	5	38	2	C164015	C168015
2.0	3	6	38	2	C164020	C168020
2.5	3	7	38	2	C164025	C168025
3.0	3	12	38	2	C164030	C168030
3.5	4	12	50	2	C164035	C168035
4.0	4	14	50	2	C164040	C168040
4.5	5	14	50	2	C164045	C168045
5.0	5	16	50	2	C164050	C168050
6.0	6	19	63	2	C164060	C168060
7.0	8	19	63	2	C164070	C168070
8.0	8	19	63	2	C164080	C168080
9.0	10	22	70	2	C164090	C168090
10.0	10	22	70	2	C164100	C168100
12.0	12	25	75	2	C164120	C168120
14.0	14	30	88	2	C164140	C168140
16.0	16	32	88	2	C164160	C168160
18.0	18	36	100	2	C164180	C168180
20.0	20	38	100	2	C164200	C168200
22.0	22	38	100	2	C164220	C168220
25.0	25	38	100	2	C164250	C168250

## Longitud Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAlN
3	3	25	65	2	C164403	C164503
4	4	25	65	2	C164404	C164504
5	5	25	75	2	C164405	C164505
6	6	25	75	2	C164406	C164506
8	8	25	75	2	C164408	C164508
10	10	38	100	2	C164410	C164510
12	12	50	100	2	C164412	C164512
14	14	56	125	2	C164414	C164514
16	16	75	150	2	C164416	C164516
18	18	75	150	2	C164418	C164518
20	20	75	150	2	C164420	C164520
25	25	75	150	2	C164425	C164525



## Longitud Extra Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAlN
6	6	75	150	2	C164806	C164906
8	8	75	150	2	C164808	C164908
10	10	75	150	2	C164810	C164910
12	12	75	150	2	C164812	C164912
14	14	75	150	2	C164814	C164914

 Ver página 202 para Información Técnica.

# ▶ LISTA: 2085 CORTADOR BOLA 4 CANALES

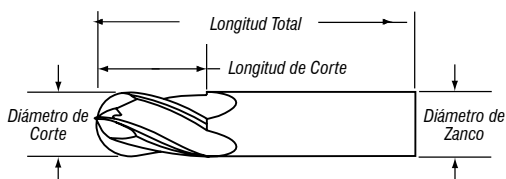


USO GENERAL

### Aplicaciones



### Características



## Longitud Estándar


Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAlN
1.0	3	3	38	4	C163010	C167010
1.5	3	5	38	4	C163015	C167015
2.0	3	6	38	4	C163020	C167020
2.5	3	7	38	4	C163025	C167025
3.0	3	12	38	4	C163030	C167030
3.5	4	12	50	4	C163035	C167035
4.0	4	14	50	4	C163040	C167040
4.5	5	14	50	4	C163045	C167045
5.0	5	16	50	4	C163050	C167050
6.0	6	19	63	4	C163060	C167060
7.0	8	19	63	4	C163070	C167070
8.0	8	19	63	4	C163080	C167080
9.0	10	22	70	4	C163090	C167090
10.0	10	22	70	4	C163100	C167100
12.0	12	25	75	4	C163120	C167120
14.0	14	30	88	4	C163140	C167140
16.0	16	32	88	4	C163160	C167160
18.0	18	36	100	4	C163180	C167180
20.0	20	38	100	4	C163200	C167200
22.0	22	38	100	4	C163220	C167220
25.0	25	38	100	4	C163250	C167250

## Longitud Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAIN
3.0	3	25	65	4	C167003	C167103
4.0	4	25	65	4	C167004	C167104
5.0	5	25	75	4	C167005	C167105
6.0	6	25	75	4	C167006	C167106
8.0	8	25	75	4	C167008	C167108
10.0	10	38	100	4	C167013	C167111
12.0	12	50	100	4	C167012	C167112
14.0	14	56	125	4	C167014	C167114
16.0	16	75	150	4	C167016	C167116
18.0	18	75	150	4	C167018	C167118
20.0	20	75	150	4	C167021	C167121
25.0	25	75	150	4	C167026	C167125

## Longitud Extra Larga

Diámetro Milimétrica	Diámetro de Zanco	Longitud de Corte	Longitud Total	Canales	Código Brillante	Código TiAIN
6.0	6	75	150	4	C167306	C167506
8.0	8	75	150	4	C167308	C167508
10.0	10	75	150	4	C167310	C167510
12.0	12	75	150	4	C167312	C167512
14.0	14	75	150	4	C167314	C167514

 Ver página 202 para Información Técnica.

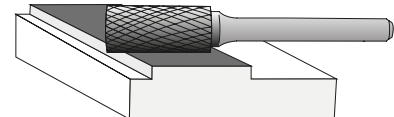
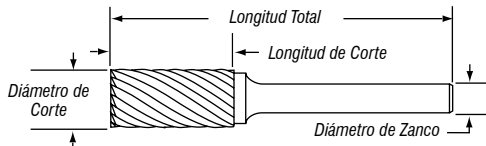
# ▶ LISTA: 6010 LIMA ROTATIVA SA CILÍNDRICA SIN CORTE FRONTAL



## Aplicaciones

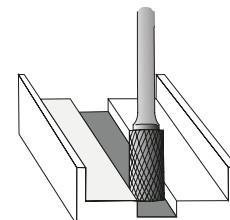
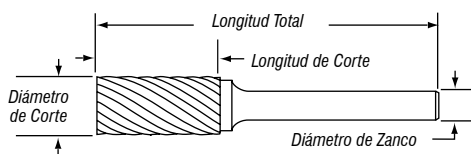


## Características



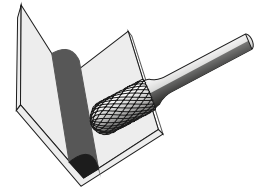
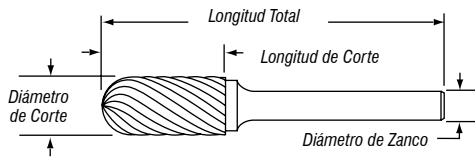
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fraccional	Decimal				
SA-41	1/16	0.6250	1/4	1-1/2	1/8	C650104
SA-42	3/32	0.0938	7/16	1-1/2	1/8	C650206
SA-43	1/8	0.1250	9/16	1-1/2	1/8	C650308
SA-14	3/16	0.1875	5/8	2	1/4	C650512
SA-1	1/4	0.2500	5/8	2	1/4	C650716
SA-2	5/16	0.3125	3/4	2-1/2	1/4	C650920
SA-3	3/8	0.3750	3/4	2-1/2	1/4	C651024
SA-4	7/16	0.4375	1	2-3/4	1/4	C651228
SA-5	1/2	0.5000	1	2-3/4	1/4	C651332
SA-6	5/8	0.6250	1	2-3/4	1/4	C651540
SA-7	3/4	0.7500	1	2-3/4	1/4	C651748
SA-9	1	1.0000	1	2-3/4	1/4	C651864

# ▶ LISTA: 6020 LIMA ROTATIVA SB CILÍNDRICA CON CORTE FRONTAL



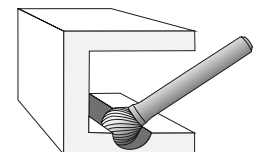
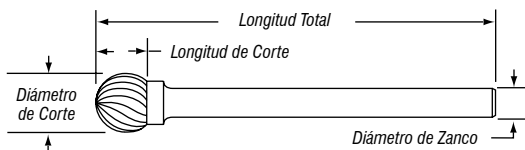
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fraccional	Decimal				
SB-41	1/16	0.6250	1/4	1-1/2	1/8	C570104
SB-42	3/32	0.0938	7/16	1-1/2	1/8	C570206
SB-43	1/8	0.1250	9/16	1-1/2	1/8	C570308
SB-14	3/16	0.1875	5/8	2	1/4	C570512
SB-1	1/4	0.2500	5/8	2	1/4	C570816
SB-2	5/16	0.3125	3/4	2-1/2	1/4	C571020
SB-3	3/8	0.3750	3/4	2-1/2	1/4	C571124
SB-4	7/16	0.4375	1	2-3/4	1/4	C571328
SB-5	1/2	0.5000	1	2-3/4	1/4	C571432
SB-6	5/8	0.6250	1	2-3/4	1/4	C571640
SB-7	3/4	0.7500	1	2-3/4	1/4	C571848

# ▶ LISTA: 6030 LIMA ROTATIVA SC CILÍNDRICA PUNTA DE BOLA



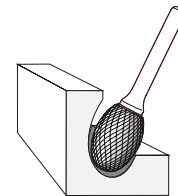
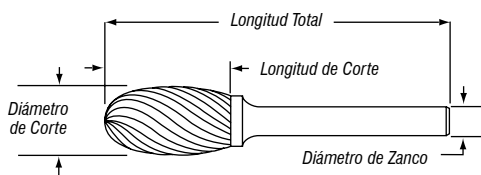
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fraccional	Decimal				
SC-41	3/32	0.094	7/16	1-1/2	1/8	C600106
SC-42	1/8	0.125	9/16	1-1/2	1/8	C600208
SC-14	3/16	0.188	5/8	2	1/4	C600416
SC-1	1/4	0.250	5/8	2	1/4	C600716
SC-2	5/16	0.313	3/4	2-1/2	1/4	C600920
SC-3	3/8	0.375	3/4	2-1/2	1/4	C601024
SC-4	7/16	0.438	1	2-3/4	1/4	C601228
SC-5	1/2	0.500	1	2-3/4	1/4	C601332
SC-6	5/8	0.625	1	2-3/4	1/4	C601540
SC-7	3/4	0.750	1	2-3/4	1/4	C601748

# ▶ LISTA: 6040 LIMA ROTATIVA SD ESFÉRICA



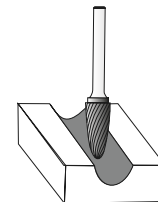
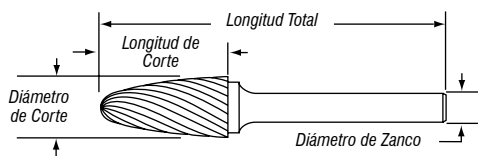
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fraccional	Decimal				
SD-41	3/32	0.0938	3/32	1-1/2	1/8	C630104
SD-42	1/8	0.1250	1/8	1-1/2	1/8	C630208
SD-14	3/16	0.1875	1/8	2	1/4	C630412
SD-1	1/4	0.2500	7/32	2	1/4	C630816
SD-2	5/16	0.3125	1/4	2-1/16	1/4	C631020
SD-3	3/8	0.3750	5/16	2-1/8	1/4	C631124
SD-4	7/16	0.4375	3/8	2-3/16	1/4	C631428
SD-5	1/2	0.5000	7/16	2-1/4	1/4	C631532
SD-6	5/8	0.6250	9/16	2-3/8	1/4	C631840
SD-7	3/4	0.7500	11/16	2-1/2	1/4	C632048
SD-9	1	1.0000	15/16	2-3/4	1/4	C632264

# ▶ LISTA: 6050 LIMA ROTATIVA SE OVOIDE



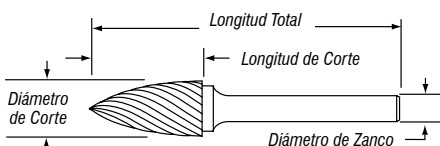
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fracional	Decimal				
SE-41	1/8	0.1250	7/32	1-1/2	1/8	C660108
SE-1	1/4	0.2500	3/8	2	1/4	C660416
SE-3	3/8	0.3750	5/8	2-3/8	1/4	C660624
SE-5	1/2	0.5000	7/8	2-5/8	1/4	C660832
SE-6	5/8	0.6250	1	2-3/4	1/4	C661040
SE-7	3/4	0.7500	1	2-3/4	1/4	C661148

# ▶ LISTA: 6060 LIMA ROTATIVA SF FORMA DE ÁRBOL CON PUNTA DE BOLA

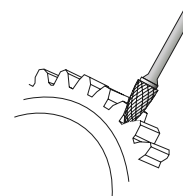


Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fracional	Decimal				
SF-42	1/8	0.1250	1/2	1-1/2	1/8	C690208
SF-1	1/4	0.2500	5/8	2	1/4	C690616
SF-3	3/8	0.3750	3/4	2-1/2	1/4	C690824
SF-4	7/16	0.4375	1	2-3/4	1/4	C691028
SF-5	1/2	0.5000	1	2-3/4	1/4	C691232
SF-6	5/8	0.6250	1	2-3/4	1/4	C691440
SF-7	3/4	0.7500	1	2-3/4	1/4	C691548

# ▶ LISTA: 6070 LIMA ROTATIVA SF FORMA DE ÁRBOL CON PUNTA

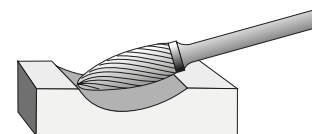
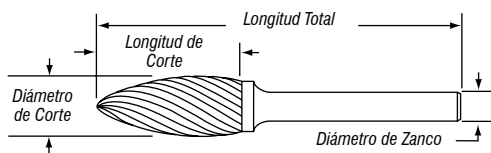


Corte Estándar



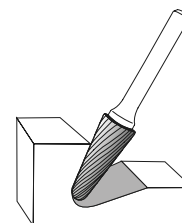
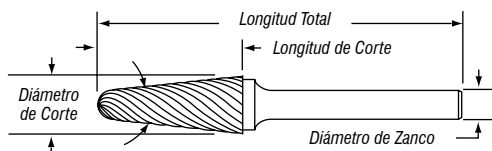
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fracional	Decimal				
SG-43	1/8	0.1250	3/8	1-1/2	1/8	C710308
SG-1	1/4	0.2500	5/8	2	1/4	C710716
SG-2	5/16	0.3125	3/4	2-1/2	1/4	C710920
SG-3	3/8	0.3750	3/4	2-1/2	1/4	C711024

# ▶ LISTA: 6080 LIMA ROTATIVA SH FORMA DE FLAMA DOBLE CORTE



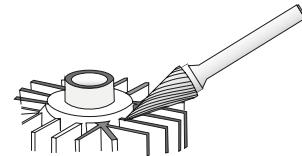
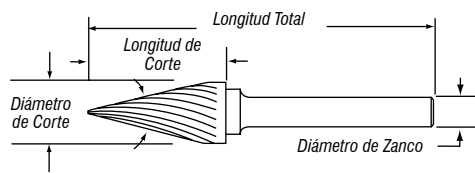
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fracional	Decimal				
SH-41	1/8	0.1250	1/4	1-1/2	1/8	C740108
SH-1	1/4	0.2500	1/2	2	1/4	C740216
SH-2	5/16	0.3125	3/4	2-1/2	1/4	C740420
SH-5	1/2	0.5000	1-1/4	3	1/4	C740632
SH-6	5/8	0.6250	1-7/16	3-3/16	1/4	C740848
SH-7	3/4	0.7500	1-5/8	3-3/8	1/4	C740948

# ▶ LISTA: 6090 LIMA ROTATIVA SL CONO CON PUNTA BOLA



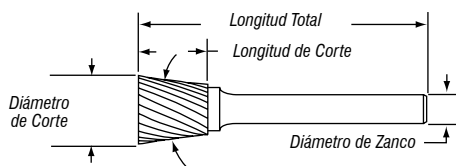
Referencia	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
	Fracional	Decimal				
SL-42	1/8	0.1250	1/2	1-1/2	1/8	C760208
SL-1	1/4	0.2500	5/8	2	1/4	C760316
SL-3	3/8	0.3750	1-1/16	2-15/16	1/4	C760420
SL-4	1/2	0.5000	1-1/8	3	1/4	C760532
SL-6	5/8	0.6250	1-5/16	3-3/16	1/4	C760640

# ▶ LISTA: 6091 LIMA ROTATIVA SM CONO CON PUNTA



Referencia	Ángulo Inclinado	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
		Fracional	Decimal				
SM-41	12°	1/8	0.1250	3/8	1-1/2	1/8	C790208
SM-42	14°	1/8	0.1250	7/16	1-1/2	1/8	C790308
SM-1	22°	1/4	0.2500	1/2	2	1/4	C790716
SM-2	14°	1/4	0.2500	3/4	2	1/4	C790916
SM-3	10°	1/4	0.2500	1	2	1/4	C791116
SM-3	14°	1/4	0.2500	1	2	1/4	C791216
SM-4	14°	3/8	0.3750	5/8	2-1/2	1/4	C791324
SM-5	14°	1/2	0.5000	7/8	2-5/8	1/4	C791632
SM-5	28°	1/2	0.5000	7/8	2-3/4	1/4	C791732
SM-6	14°	5/8	0.6250	1	2-3/4	1/4	C791940

# ▶ LISTA: 6092 LIMA ROTATIVA SN CONO INVERTIDO



Referencia	Ángulo Inclinado	Diámetro de Corte		Longitud de Corte	Longitud Total	Diámetro de Zanco	Código
		Fracional	Decimal				
SN-41	10°	3/32	0.0938	1/8	1-1/2	1/8	C810106
SN-42	10°	1/8	0.1250	3/16	1-1/2	1/8	C810308
SN-1	10°	1/4	0.2500	5/16	2	1/4	C810616
SN-2	13°	3/8	0.3750	3/8	2-1/8	1/4	C810824
SN-3	16°	1/2	0.5000	1/2	2-1/4	1/4	C810932
SN-4	28°	1/2	0.5000	1/2	2-1/4	1/4	C811032
SN-5	19°	5/8	0.6250	5/8	2-1/2	1/4	C811240
SN-6	18°	5/8	0.6250	3/4	2-5/8	1/4	C811340
SN-7	30°	3/4	0.7500	5/8	2-3/4	1/4	C811448

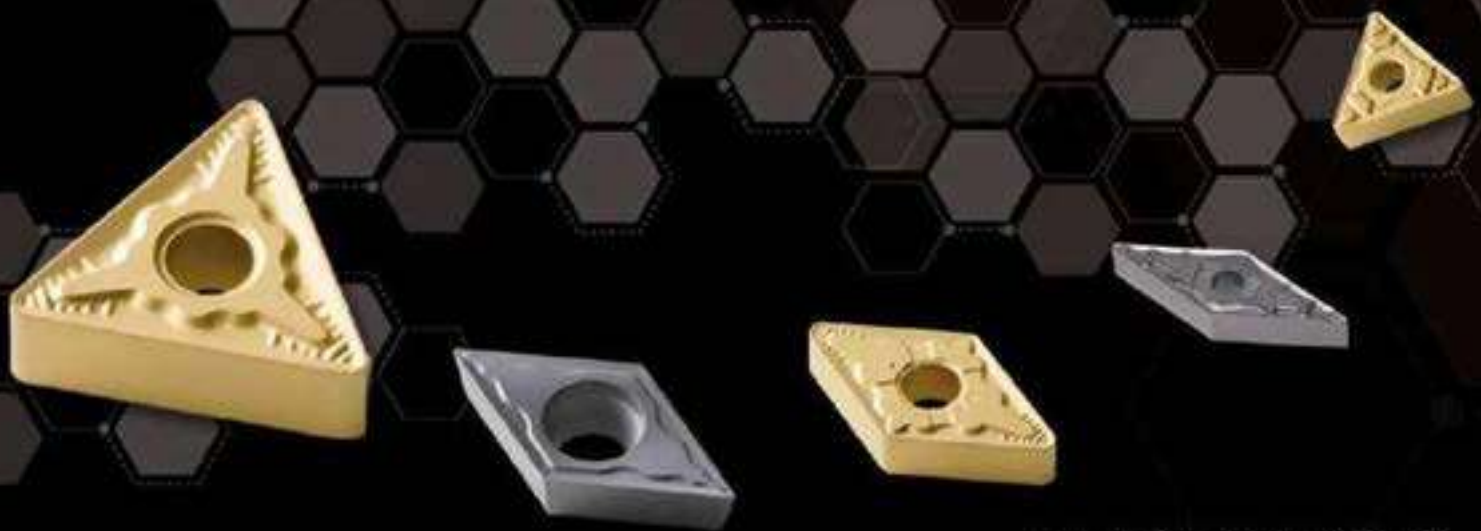
Ver página 214 para Información Técnica.







# 2020 CATÁLOGO



## INSERTOS

[www.herramientascleveland.com](http://www.herramientascleveland.com)





## ► ROMPEVIRUTA PARA INSERTOS NEGATIVOS

Romeviruta	Descripción	Rango de Romeviruta	Diseño
<b>PF4</b> P Acero	<ul style="list-style-type: none"> <li>- Ángulo de incidencia variable.</li> <li>- Filo radial.</li> <li>- Buen control de rebaba con un excelente acabado superficial a diferentes profundidades de corte.</li> </ul>		
<b>PV</b> P Acero	<ul style="list-style-type: none"> <li>- Ranura amplia para salida de rebaba.</li> <li>- Para máquinas inestables.</li> <li>- Capaz de mantener diferentes profundidades de corte.</li> </ul>		
<b>PM4</b> P Acero	<ul style="list-style-type: none"> <li>- Ranura amplia para salida de rebaba.</li> <li>- Excelente balance entre rigidez y filo .</li> <li>- Amplio rango de aplicaciones.</li> <li>- Capaz de mantener diferentes profundidades de corte.</li> </ul>		
<b>PR4</b> P Acero	<ul style="list-style-type: none"> <li>- Alto rendimiento en acero.</li> <li>- Filos de corte agresivos.</li> <li>- Excelente control de rebaba en pequeñas profundidades de corte.</li> <li>- Para cortes interrumpidos.</li> <li>- Fácil remoción de rebaba en avances altos.</li> </ul>		
<b>MF2</b> M Acero Inoxidable	<ul style="list-style-type: none"> <li>- Filo de corte agudo.</li> <li>- Excelente control de rebaba en pequeñas profundidades de corte.</li> <li>- Landa diseñada para proteger los filos.</li> <li>- Excelentes acabados superficiales.</li> </ul>		
<b>MM2</b> M Acero Inoxidable	<ul style="list-style-type: none"> <li>- Landa reforzada.</li> <li>- El diseño del borde provee un buen flujo de rebaba</li> <li>- Por su diseño puede utilizarse en distintas aplicaciones.</li> </ul>		
<b>KM</b> K Hierro Fundido	<ul style="list-style-type: none"> <li>- Para máquinas inestables.</li> <li>- Reduce adhesión de materiales.</li> </ul>		
<b>KR</b> K Hierro Fundido	<ul style="list-style-type: none"> <li>- Excelente rendimiento en hierro fundido.</li> <li>- Amplio rango de aplicaciones.</li> <li>- Sustituye a los insertos tradicionales de asiento plano.</li> </ul>		

## ► ROMPEVIRUTA PARA INSERTOS POSITIVOS

Romeviruta	Descripción	Rango de Romeviruta	Diseño
<b>KM positivo</b> P M K	<ul style="list-style-type: none"> <li>- Landa reducida, para avances menores a 0.004"</li> <li>- Amplio rango de aplicaciones.</li> </ul>		
<b>AL</b> N No Ferrosos	<ul style="list-style-type: none"> <li>- Filos de corte agresivos.</li> <li>- Excelente desalajo de rebaba.</li> <li>- Reduce adhesión de materiales.</li> </ul>		

USO GENERAL

## GRADOS DE RECUBRIMIENTO PARA INSERTOS NEGATIVOS

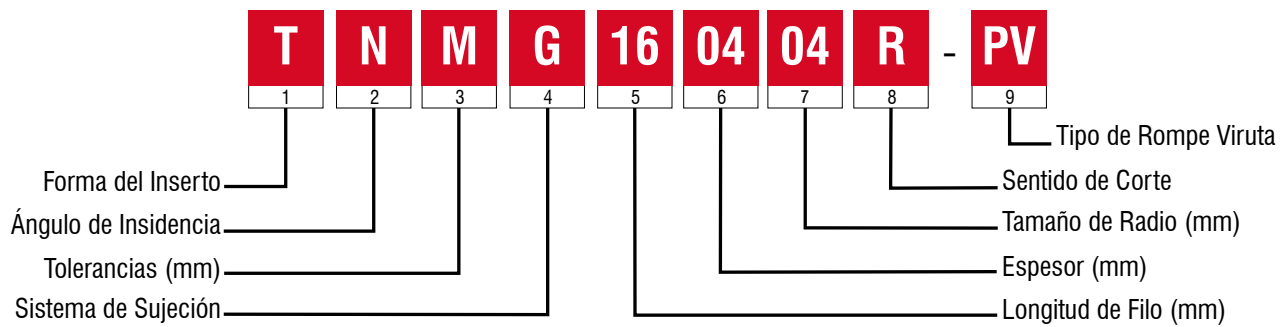
Material de Trabajo	ANSI	ISO	Tipo de Recubrimiento		
			CVD	PVD	
<b>P</b> Acero	C8	01	TP15CG		Resistencia al Desgaste
	C7	10	TP25CG		
	C6	20	TP34CG		
	-	30			
	-	40			
<b>M</b> Acero Inoxidable	-	01	CM6125	TS15CG	Resistencia al Desgaste
	-	10			Tenacidad
	-	20			
	-	30		TM10CB	
<b>K</b> Hierro Fundido	C4	01	TK15CG		Resistencia al Desgaste
	C3	10		TK25CG	Tenacidad
	C2	20			
	C1	30			
<b>S</b> Aleaciones Termo-resistentes	C4	01		TS15CG	Resistencia al Desgaste
	C3	10			Tenacidad
	C2	20			
	C1	30			

## GRADOS DE RECUBRIMIENTO PARA INSERTOS POSITIVOS

Material de Trabajo	ANSI	ISO	Tipo de Recubrimiento			
			CVD	PVD	Sin Recubrimiento	
<b>P</b> Acero	C8	01		CP2425		Resistencia al Desgaste
	C7	10	TP25CG			
	C6	20		CP2425		
	-	30				
	-	40				
<b>M</b> Acero Inoxidable	-	01		CP2425		Resistencia al Desgaste
	-	10				Tenacidad
	-	20				
	-	30				
<b>K</b> Hierro Fundido	C4	01	TK15CG	CP2425		Resistencia al Desgaste
	C3	10				Tenacidad
	C2	20				
	C1	30				
<b>N</b> No Ferrosos	C4	01			TN10CB	Resistencia al Desgaste
	C3	10				Tenacidad
	C2	20				
	C1	30				

 Ver página 209 para Información Técnica.

# NOMENCLATURA PARA INSERTOS DE TORNEADO



USO GENERAL

1	Forma de Inserto	2	Ángulo de Insidencia	3	Tolerancias (mm)																						
C	80° Diamante	<table border="1"> <tr><td>B</td><td>5°</td><td>Rake Positivo</td></tr> <tr><td>C</td><td>7°</td><td>Rake Positivo</td></tr> <tr><td>N</td><td>0°</td><td>Rake Negativo</td></tr> <tr><td>P</td><td>11°</td><td>Rake Positivo</td></tr> </table>	B	5°	Rake Positivo	C	7°	Rake Positivo	N	0°	Rake Negativo	P	11°	Rake Positivo	<table border="1"> <tr> <th>Tolerancia Clase</th> <th>Tolerancia en "d"</th> <th>Tolerancia en "B"</th> <th>Tolerancia en "s"</th> </tr> <tr> <td>G</td> <td>± 0.025</td> <td>± 0.025</td> <td>± 0.13</td> </tr> <tr> <td>M</td> <td>Ver tabla de Tolerancias M</td> <td>Ver tabla de Tolerancias B</td> <td>± 0.13</td> </tr> </table>	Tolerancia Clase	Tolerancia en "d"	Tolerancia en "B"	Tolerancia en "s"	G	± 0.025	± 0.025	± 0.13	M	Ver tabla de Tolerancias M	Ver tabla de Tolerancias B	± 0.13
B	5°		Rake Positivo																								
C	7°		Rake Positivo																								
N	0°		Rake Negativo																								
P	11°		Rake Positivo																								
Tolerancia Clase	Tolerancia en "d"	Tolerancia en "B"	Tolerancia en "s"																								
G	± 0.025	± 0.025	± 0.13																								
M	Ver tabla de Tolerancias M	Ver tabla de Tolerancias B	± 0.13																								
D	55° Diamante																										
S	Cuadrado																										
T	Triangular																										
V	35° Diamante																										
W	Corner Trigon																										

4	Sistema de Sujeción	5	Longitud de Filo Longitud de corte en el borde (mm)	6	Espesor (mm)																																																																																																
G	Con Barrenos, Sujeción Pin/Top Ambos Lados	<table border="1"> <thead> <tr> <th>Símbolo</th> <th>C</th> <th>D</th> <th>S</th> <th>T</th> <th>V</th> <th>W</th> </tr> </thead> <tr> <td>06</td> <td>6.5</td> <td></td> <td></td> <td></td> <td></td> <td>6.5</td> </tr> <tr> <td>07</td> <td></td> <td>7.8</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>08</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8.7</td> </tr> <tr> <td>09</td> <td>9.7</td> <td></td> <td>9.5</td> <td>9.6</td> <td></td> <td></td> </tr> <tr> <td>11</td> <td></td> <td>11.6</td> <td></td> <td>11.0</td> <td>11.1</td> <td></td> </tr> <tr> <td>12</td> <td>12.9</td> <td></td> <td>12.7</td> <td></td> <td></td> <td></td> </tr> <tr> <td>15</td> <td></td> <td>15.5</td> <td>15.9</td> <td></td> <td></td> <td></td> </tr> <tr> <td>16</td> <td>16.1</td> <td></td> <td></td> <td>16.5</td> <td>16.6</td> <td></td> </tr> <tr> <td>19</td> <td>19.4</td> <td></td> <td>19.1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>22</td> <td></td> <td></td> <td></td> <td>22.0</td> <td>22.2</td> <td></td> </tr> <tr> <td>27</td> <td></td> <td></td> <td></td> <td>27.5</td> <td></td> <td></td> </tr> </table>	Símbolo	C	D	S	T	V	W	06	6.5					6.5	07		7.8					08						8.7	09	9.7		9.5	9.6			11		11.6		11.0	11.1		12	12.9		12.7				15		15.5	15.9				16	16.1			16.5	16.6		19	19.4		19.1				22				22.0	22.2		27				27.5			<table border="1"> <thead> <tr> <th>Símbolo</th> <th>s</th> </tr> </thead> <tr> <td>02</td> <td>2.38</td> </tr> <tr> <td>03</td> <td>3.18</td> </tr> <tr> <td>T3</td> <td>3.97</td> </tr> <tr> <td>04</td> <td>4.76</td> </tr> <tr> <td>05</td> <td>5.56</td> </tr> <tr> <td>06</td> <td>6.35</td> </tr> </table>	Símbolo	s	02	2.38	03	3.18	T3	3.97	04	4.76	05	5.56	06	6.35
Símbolo	C		D	S	T	V	W																																																																																														
06	6.5						6.5																																																																																														
07			7.8																																																																																																		
08							8.7																																																																																														
09	9.7			9.5	9.6																																																																																																
11			11.6		11.0	11.1																																																																																															
12	12.9			12.7																																																																																																	
15			15.5	15.9																																																																																																	
16	16.1				16.5	16.6																																																																																															
19	19.4		19.1																																																																																																		
22				22.0	22.2																																																																																																
27				27.5																																																																																																	
Símbolo	s																																																																																																				
02	2.38																																																																																																				
03	3.18																																																																																																				
T3	3.97																																																																																																				
04	4.76																																																																																																				
05	5.56																																																																																																				
06	6.35																																																																																																				
T	Con Barrenos, Sujeción por Tornillo Un lado																																																																																																				
X	Manufactura - Diseño Especial																																																																																																				

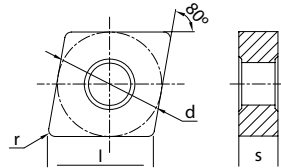
7	Tamaño de Radio	8	Sentido del Corte (opcional)	9	Designación de Rompevirutas
Símbolo	s	R	Corte Derecho	Indica las propiedades del maquinado o las características del rompeviruta Manufactura especial	
02	0.2	L	Corte Izquierdo		
04	0.4				
08	0.8				
12	1.2				
16	1.6				
30	3.0				

d	Tolerancias M (mm)			
	Tolerancia en "d"		Tolerancia en "B"	
	Todas las formas	Forma C, S, T, W	Forma D	Forma V
5.556	± 0.05	± 0.08	± 0.10	N/A
6.350	± 0.05	± 0.08	± 0.10	± 0.18
9.525	± 0.05	± 0.08	± 0.10	± 0.18
12.700	± 0.08	± 0.13	± 0.15	± 0.25
15.875	± 0.10	± 0.15	± 0.18	N/A
19.050	± 0.10	± 0.15	± 0.18	N/A

# ▶ INSERTOS NEGATIVOS

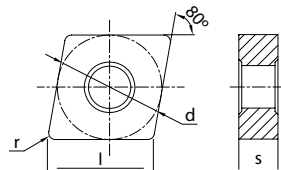


## ▶ LISTA: CNMG-PF4



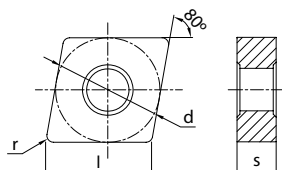
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG321-PF4	CNMG090304-PF4	TP15CG	3/8	0.381	1/8	1/64	C990002
CNMG321-PF4	CNMG090304-PF4	TP25CG	3/8	0.381	1/8	1/64	C990004
CNMG322-PF4	CNMG090308-PF4	TP15CG	3/8	0.381	1/8	1/32	C990006
CNMG322-PF4	CNMG090308-PF4	TP25CG	3/8	0.381	1/8	1/32	C990008
CNMG431-PF4	CNMG120404-PF4	TP15CG	1/2	0.508	3/16	1/64	C990010
CNMG431-PF4	CNMG120404-PF4	TP25CG	1/2	0.508	3/16	1/64	C990012
CNMG432-PF4	CNMG120408-PF4	TP15CG	1/2	0.508	3/16	1/32	C990014
CNMG432-PF4	CNMG120408-PF4	TP25CG	1/2	0.508	3/16	1/32	C990016

## ▶ LISTA: CNMG-PV



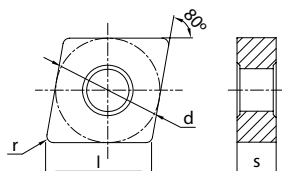
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG432R-PV	CNMG120408R-PV	TP25CG	1/2	0.508	3/16	1/32	C990018
CNMG432L-PV	CNMG120408L-PV	TP25CG	1/2	0.508	3/16	1/32	C990020

## ▶ LISTA: CNMG-PR4



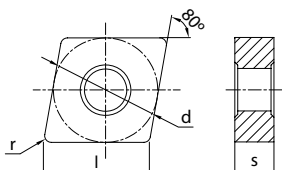
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG432-PR4	CNMG120408-PR4	TP25CG	1/2	0.508	3/16	1/32	C990062
CNMG432-PR4	CNMG120408-PR4	TP34CG	1/2	0.508	3/16	1/32	C990064
CNMG433-PR4	CNMG120412-PR4	TP25CG	1/2	0.508	3/16	3/64	C990066
CNMG433-PR4	CNMG120412-PR4	TP34CG	1/2	0.508	3/16	3/64	C990068
CNMG543-PR4	CNMG160612-PR4	TP25CG	5/8	0.635	1/4	3/64	C990070
CNMG543-PR4	CNMG160612-PR4	TP34CG	5/8	0.635	1/4	3/64	C990072
CNMG544-PR4	CNMG160616-PR4	TP34CG	5/8	0.635	1/4	1/16	C990074
CNMG643-PR4	CNMG190612-PR4	TP25CG	3/4	0.762	1/4	3/64	C990076
CNMG643-PR4	CNMG190612-PR4	TP34CG	3/4	0.762	1/4	3/64	C990078
CNMG644-PR4	CNMG190616-PR4	TP34CG	3/4	0.762	1/4	1/16	C990080

## ▶ LISTA: CNMG-PM4



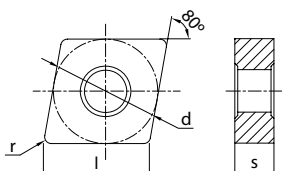
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG321-PM4	CNMG090304-PM4	TP15CG	3/8	0.381	1/8	1/64	C990022
CNMG321-PM4	CNMG090304-PM4	TP25CG	3/8	0.381	1/8	1/64	C990024
CNMG322-PM4	CNMG090308-PM4	TP15CG	3/8	0.381	1/8	1/32	C990026
CNMG322-PM4	CNMG090308-PM4	TP25CG	3/8	0.381	1/8	1/32	C990028
CNMG431-PM4	CNMG120404-PM4	TP15CG	1/2	0.508	3/16	1/64	C990030
CNMG431-PM4	CNMG120404-PM4	TP25CG	1/2	0.508	3/16	1/64	C990032
CNMG432-PM4	CNMG120408-PM4	TP15CG	1/2	0.508	3/16	1/32	C990034
CNMG432-PM4	CNMG120408-PM4	TP25CG	1/2	0.508	3/16	1/32	C990036
CNMG433-PM4	CNMG120412-PM4	TP15CG	1/2	0.508	3/16	3/64	C990038
CNMG433-PM4	CNMG120412-PM4	TP25CG	1/2	0.508	3/16	3/64	C990040
CNMG434-PM4	CNMG120416-PM4	TP25CG	1/2	0.508	3/16	1/16	C990042
CNMG542-PM4	CNMG160608-PM4	TP15CG	5/8	0.635	1/4	1/32	C990044
CNMG542-PM4	CNMG160608-PM4	TP25CG	5/8	0.635	1/4	1/32	C990046
CNMG543-PM4	CNMG160612-PM4	TP15CG	5/8	0.635	1/4	3/64	C990048
CNMG543-PM4	CNMG160612-PM4	TP25CG	5/8	0.635	1/4	3/64	C990050
CNMG642-PM4	CNMG190608-PM4	TP15CG	3/4	0.762	1/4	1/32	C990052
CNMG642-PM4	CNMG190608-PM4	TP25CG	3/4	0.762	1/4	1/32	C990054
CNMG643-PM4	CNMG190612-PM4	TP15CG	3/4	0.762	1/4	3/64	C990056
CNMG643-PM4	CNMG190612-PM4	TP25CG	3/4	0.762	1/4	3/64	C990058
CNMG644-PM4	CNMG190616-PM4	TP25CG	3/4	0.762	1/4	1/16	C990060

## ► LISTA: CNMG-MF2



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG431-MF2	CNMG120404-MF2	TS15CG	1/2	0.508	3/16	1/64	C990082
CNMG432-MF2	CNMG120408-MF2	TS15CG	1/2	0.508	3/16	1/32	C990084

## ► LISTA: CNMG-MM2

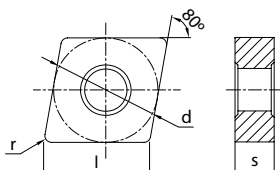


Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG321-MM2	CNMG090304-MM2	CM6125	3/8	0.381	1/8	1/64	C990086
CNMG321-MM2	CNMG090304-MM2	TM10CB	3/8	0.381	1/8	1/64	C990088
CNMG322-MM2	CNMG090308-MM2	CM6125	3/8	0.381	1/8	1/32	C990090
CNMG322-MM2	CNMG090308-MM2	TM10CB	3/8	0.381	1/8	1/32	C990092
CNMG431-MM2	CNMG120404-MM2	CM6125	1/2	0.508	3/16	1/64	C990094
CNMG431-MM2	CNMG120404-MM2	TM10CB	1/2	0.508	3/16	1/64	C990096
CNMG432-MM2	CNMG120408-MM2	CM6125	1/2	0.508	3/16	1/32	C990098
CNMG432-MM2	CNMG120408-MM2	TM10CB	1/2	0.508	3/16	1/32	C990100
CNMG433-MM2	CNMG120412-MM2	CM6125	1/2	0.508	3/16	3/64	C990102
CNMG433-MM2	CNMG120412-MM2	TM10CB	1/2	0.508	3/16	3/64	C990104
CNMG434-MM2	CNMG120416-MM2	CM6125	1/2	0.508	3/16	1/16	C990106
CNMG434-MM2	CNMG120416-MM2	TM10CB	1/2	0.508	3/16	1/16	C990108
CNMG542-MM2	CNMG160608-MM2	CM6125	5/8	0.635	1/4	1/32	C990110
CNMG542-MM2	CNMG160608-MM2	TM10CB	5/8	0.635	1/4	1/32	C990112
CNMG543-MM2	CNMG160612-MM2	CM6125	5/8	0.635	1/4	3/64	C990114
CNMG543-MM2	CNMG160612-MM2	TM10CB	5/8	0.635	1/4	3/64	C990116
CNMG544-MM2	CNMG160616-MM2	CM6125	5/8	0.635	1/4	1/16	C990118
CNMG544-MM2	CNMG160616-MM2	TM10CB	5/8	0.635	1/4	1/16	C990120
CNMG642-MM2	CNMG190608-MM2	CM6125	3/4	0.762	1/4	1/32	C990122
CNMG642-MM2	CNMG190608-MM2	TM10CB	3/4	0.762	1/4	1/32	C990124
CNMG643-MM2	CNMG190612-MM2	CM6125	3/4	0.762	1/4	3/64	C990126
CNMG643-MM2	CNMG190612-MM2	TM10CB	3/4	0.762	1/4	3/64	C990128
CNMG644-MM2	CNMG190616-MM2	CM6125	3/4	0.762	1/4	1/16	C990130
CNMG644-MM2	CNMG190616-MM2	TM10CB	3/4	0.762	1/4	1/16	C990132



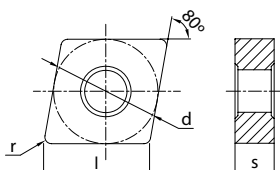


## LISTA: CNMG-KM



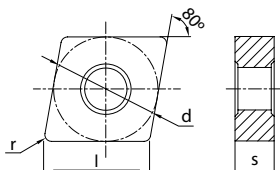
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG431-KM	CNMG120404-KM	TK15CG	1/2	0.508	3/16	1/64	C990134
CNMG431-KM	CNMG120404-KM	TK25CG	1/2	0.508	3/16	1/64	C990136
CNMG432-KM	CNMG120408-KM	TK15CG	1/2	0.508	3/16	1/32	C990138
CNMG432-KM	CNMG120408-KM	TK25CG	1/2	0.508	3/16	1/32	C990140

## LISTA: CNMG-KR



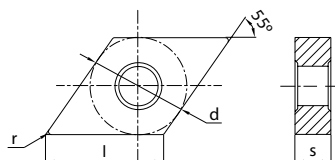
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CNMG432-KR	CNMG120408-KR	TK15CG	1/2	0.508	3/16	1/32	C990142
CNMG432-KR	CNMG120408-KR	TK25CG	1/2	0.508	3/16	1/32	C990144
CNMG433-KR	CNMG120412-KR	TK15CG	1/2	0.508	3/16	3/64	C990146
CNMG433-KR	CNMG120412-KR	TK25CG	1/2	0.508	3/16	3/64	C990148
CNMG543-KR	CNMG160612-KR	TK15CG	5/8	0.635	1/4	3/64	C990150
CNMG543-KR	CNMG160612-KR	TK25CG	5/8	0.635	1/4	3/64	C990152
CNMG544-KR	CNMG160616-KR	TK25CG	5/8	0.635	1/4	1/16	C990154
CNMG643-KR	CNMG190612-KR	TK15CG	3/4	0.762	1/4	3/64	C990156
CNMG643-KR	CNMG190612-KR	TK25CG	3/4	0.762	1/4	3/64	C990158
CNMG644-KR	CNMG190616-KR	TK25CG	3/4	0.762	1/4	1/16	C990160

## LISTA: CNMG



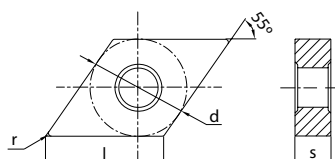
Designación	Grado	Dimensiones (IN)				Código
ISO		d	l	s	r	
CNMA120404	TK25CG	1/2"	0.508"	3/16	1/64	C991002
CNMA120404	TK15CG	1/2"	0.508"	3/16	1/64	C991004
CNMA120408	TK25CG	1/2"	0.508"	3/16	1/32	C991006
CNMA120408	TK15CG	1/2"	0.508"	3/16	1/32	C991008
CNMA160616	TK25CG	5/8"	0.635"	1/4	1/16	C991016
CNMA160616	TK15CG	5/8"	0.635"	1/4	1/16	C991018
CNMA190616	TK25CG	3/4"	0.762"	1/4	1/16	C991020
CNMA190616	TK15CG	3/4"	0.762"	1/4	1/16	C991022

## ▶ LISTA: DNMG-PF4



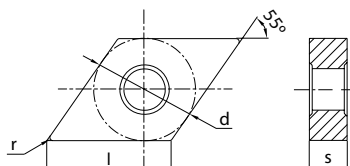
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG331-PF4	DNMG110404-PF4	TP15CG	3/8	0.458	3/16	1/64	C990162
DNMG331-PF4	DNMG110404-PF4	TP25CG	3/8	0.458	3/16	1/64	C990164
DNMG332-PF4	DNMG110408-PF4	TP15CG	3/8	0.458	3/16	1/32	C990166
DNMG332-PF4	DNMG110408-PF4	TP25CG	3/8	0.458	3/16	1/32	C990168
DNMG431-PF4	DNMG150404-PF4	TP15CG	1/2	0.610	3/16	1/64	C990170
DNMG431-PF4	DNMG150404-PF4	TP25CG	1/2	0.610	3/16	1/64	C990172
DNMG432-PF4	DNMG150408-PF4	TP15CG	1/2	0.610	3/16	1/32	C990174
DNMG432-PF4	DNMG150408-PF4	TP25CG	1/2	0.610	3/16	1/32	C990176

## ▶ LISTA: DNMG-PM4



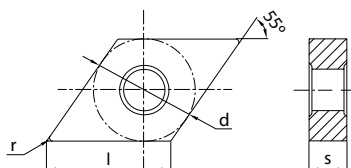
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG331-PM4	DNMG110404-PM4	TP15CG	3/8	0.458	3/16	1/64	C990178
DNMG331-PM4	DNMG110404-PM4	TP25CG	3/8	0.458	3/16	1/64	C990180
DNMG332-PM4	DNMG110408-PM4	TP15CG	3/8	0.458	3/16	1/32	C990182
DNMG332-PM4	DNMG110408-PM4	TP25CG	3/8	0.458	3/16	1/32	C990184
DNMG333-PM4	DNMG110412-PM4	TP15CG	3/8	0.458	3/16	3/64	C990186
DNMG333-PM4	DNMG110412-PM4	TP25CG	3/8	0.458	3/16	3/64	C990188
DNMG431-PM4	DNMG150404-PM4	TP15CG	1/2	0.610	3/16	1/64	C990190
DNMG431-PM4	DNMG150404-PM4	TP25CG	1/2	0.610	3/16	1/64	C990192
DNMG432-PM4	DNMG150408-PM4	TP15CG	1/2	0.610	3/16	1/32	C990194
DNMG432-PM4	DNMG150408-PM4	TP25CG	1/2	0.610	3/16	1/32	C990196
DNMG433-PM4	DNMG150412-PM4	TP15CG	1/2	0.610	3/16	3/64	C990198
DNMG433-PM4	DNMG150412-PM4	TP25CG	1/2	0.610	3/16	3/64	C990200

## ▶ LISTA: DNMG-PR4



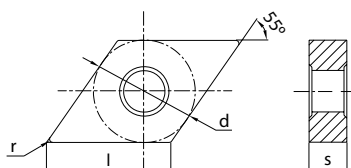
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG442-PR4	DNMG150608-PR4	TP34CG	1/2	0.610	1/4	1/32	C991462
DNMG442-PR4	DNMG150608-PR4	TP25CG	1/2	0.610	1/4	1/32	C991464
DNMG443-PR4	DNMG150612-PR4	TP34CG	1/2	0.610	1/4	3/64	C991466
DNMG443-PR4	DNMG150612-PR4	TP25CG	1/2	0.610	1/4	3/64	C991468

## ▶ LISTA: DNMG-MF2



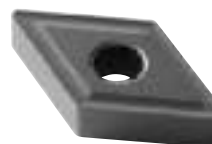
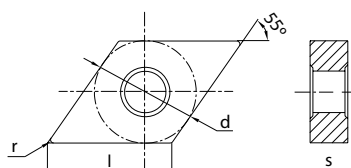
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG431-MF2	DNMG150404-MF2	TS15CG	1/2	0.610	3/16	1/64	C990202
DNMG432-MF2	DNMG150408-MF2	TS15CG	1/2	0.610	3/16	1/32	C990204

## ▶ LISTA: DNMG-MM2



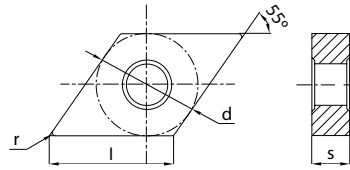
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG331-MM2	DNMG110404-MM2	CM6125	3/8	0.458	3/16	1/64	C990206
DNMG332-MM2	DNMG110408-MM2	CM6125	3/8	0.458	3/16	1/32	C990208
DNMG332-MM2	DNMG110408-MM2	TM10CB	3/8	0.458	3/16	1/32	C990210
DNMG333-MM2	DNMG110412-MM2	CM6125	3/8	0.458	3/16	3/64	C990212
DNMG333-MM2	DNMG110412-MM2	TM10CB	3/8	0.458	3/16	3/64	C990214
DNMG431-MM2	DNMG150404-MM2	CM6125	1/2	0.610	3/16	1/64	C990216
DNMG431-MM2	DNMG150404-MM2	TM10CB	1/2	0.610	3/16	1/64	C990218
DNMG432-MM2	DNMG150408-MM2	CM6125	1/2	0.610	3/16	1/32	C990220
DNMG432-MM2	DNMG150408-MM2	TM10CB	1/2	0.610	3/16	1/32	C990222
DNMG433-MM2	DNMG150412-MM2	CM6125	1/2	0.610	3/16	3/64	C990224
DNMG433-MM2	DNMG150412-MM2	TM10CB	1/2	0.610	3/16	3/64	C990226

## ▶ LISTA: DNMG-KM



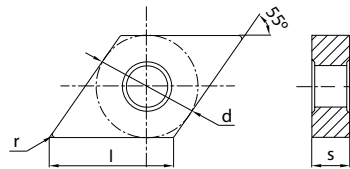
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG431-KM	DNMG150404-KM	TK15CG	1/2	0.610	3/16	1/64	C990228
DNMG431-KM	DNMG150404-KM	TK25CG	1/2	0.610	3/16	1/64	C990230
DNMG432-KM	DNMG150408-KM	TK15CG	1/2	0.610	3/16	1/32	C990232
DNMG432-KM	DNMG150408-KM	TK25CG	1/2	0.610	3/16	1/32	C990234
DNMG441-KM	DNMG150604-KM	TK25CG	1/2	1/2	1/4	1/64	C991228
DNMG441-KM	DNMG150604-KM	TK15CG	1/2	1/2	1/4	1/64	C991230
DNMG442-KM	DNMG150608-KM	TK25CG	1/2	1/2	1/4	1/32	C991232
DNMG442-KM	DNMG150608-KM	TK15CG	1/2	1/2	1/4	1/32	C991234
DNMG443-KM	DNMG150612-KM	TK25CG	1/2	1/2	1/4	3/64	C991236
DNMG443-KM	DNMG150612-KM	TK15CG	1/2	1/2	1/4	3/64	C991238

## ▶ LISTA: DNMG-KR



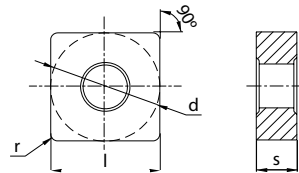
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMG432-KR	DNMG150408-KR	TK15CG	1/2	0.610	3/16	1/32	C990236
DNMG432-KR	DNMG150408-KR	TK25CG	1/2	0.610	3/16	1/32	C990238
DNMG433-KR	DNMG150412-KR	TK15CG	1/2	0.610	3/16	3/64	C990240
DNMG433-KR	DNMG150412-KR	TK25CG	1/2	0.610	3/16	3/64	C990242

## ▶ LISTA: DNMA



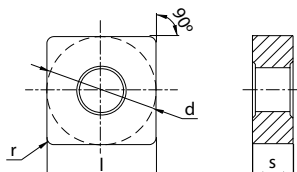
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DNMA431	DNMA150404	TP15CG	1/2	0.610	3/16	1/64	C991162
DNMA431	DNMA150404	TP25CG	1/2	0.610	3/16	1/64	C991164
DNMA432	DNMA150408	TP15CG	1/2	0.610	3/16	1/32	C991166
DNMA432	DNMA150408	TP25CG	1/2	0.610	3/16	1/32	C991168
DNMA433	DNMA150412	TP15CG	1/2	0.610	3/16	3/64	C991170
DNMA433	DNMA150412	TP25CG	1/2	0.610	3/16	1/64	C991172
DNMA442	DNMA150608	TP15CG	1/2	0.610	1/4	1/32	C991174
DNMA442	DNMA150608	TP25CG	1/2	0.610	1/4	1/32	C991176
DNMA443	DNMA150612	TP15CG	1/2	0.610	1/4	3/64	C991178
DNMA443	DNMA150612	TP25CG	1/2	0.610	1/4	3/64	C991180

## ▶ LISTA: SNMG-PF4



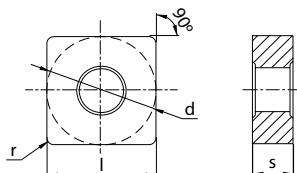
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG321-PF4	SNMG090304-PF4	TP15CG	3/8	0.375	1/8	1/64	C990244
SNMG321-PF4	SNMG090304-PF4	TP25CG	3/8	0.375	1/8	1/64	C990246
SNMG322-PF4	SNMG090308-PF4	TP15CG	3/8	0.375	1/8	1/32	C990248
SNMG322-PF4	SNMG090308-PF4	TP25CG	3/8	0.375	1/8	1/32	C990250
SNMG431-PF4	SNMG120404-PF4	TP15CG	1/2	0.500	3/16	1/64	C990252
SNMG431-PF4	SNMG120404-PF4	TP25CG	1/2	0.500	3/16	1/64	C990254
SNMG432-PF4	SNMG120408-PF4	TP15CG	1/2	0.500	3/16	1/32	C990256
SNMG432-PF4	SNMG120408-PF4	TP25CG	1/2	0.500	3/16	1/32	C990258

## ▶ LISTA: SNMG-PV



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG432R-PV	DSNM120408R-PV	TP25CG	1/2	0.500	3/16	1/32	C990260
SNMG432L-PV	ISNM120408L-PV	TP25CG	1/2	0.500	3/16	1/32	C990262

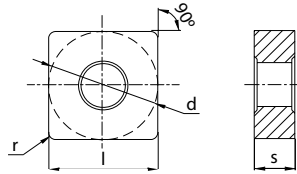
## ▶ LISTA: SNMG-PR4



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG432-PR4	SNMG120408-PR4	TP25CG	1/2	0.500	3/16	1/32	C990298
SNMG432-PR4	SNMG120408-PR4	TP34CG	1/2	0.500	3/16	1/32	C990300
SNMG433-PR4	SNMG120412-PR4	TP34CG	1/2	0.500	3/16	3/64	C990302
SNMG543-PR4	SNMG150612-PR4	TP25CG	5/8	0.625	1/4	3/64	C990304
SNMG543-PR4	SNMG150612-PR4	TP34CG	5/8	0.625	1/4	3/64	C990306
SNMG544-PR4	SNMG150616-PR4	TP34CG	5/8	0.625	1/4	1/16	C990308
SNMG643-PR4	SNMG190612-PR4	TP25CG	3/4	0.750	1/4	3/64	C990310
SNMG643-PR4	SNMG190612-PR4	TP34CG	3/4	0.750	1/4	3/64	C990312
SNMG644-PR4	SNMG190616-PR4	TP34CG	3/4	0.750	1/4	1/16	C990314

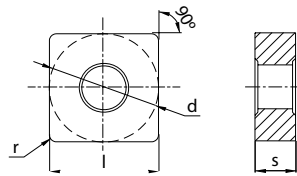
USO GENERAL

## ► LISTA: SNMG-PM4



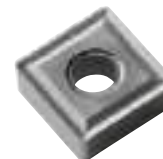
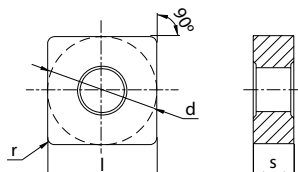
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG321-PM4	SNMG090304-PM4	TP15CG	3/8	0.375	1/8	1/64	C990264
SNMG321-PM4	SNMG090304-PM4	TP25CG	3/8	0.375	1/8	1/64	C990266
SNMG322-PM4	SNMG090308-PM4	TP15CG	3/8	0.375	1/8	1/32	C990268
SNMG322-PM4	SNMG090308-PM4	TP25CG	3/8	0.375	1/8	1/32	C990270
SNMG431-PM4	SNMG120404-PM4	TP15CG	1/2	0.500	3/16	1/64	C990272
SNMG431-PM4	SNMG120404-PM4	TP25CG	1/2	0.500	3/16	1/64	C990274
SNMG432-PM4	SNMG120408-PM4	TP15CG	1/2	0.500	3/16	1/32	C990276
SNMG432-PM4	SNMG120408-PM4	TP25CG	1/2	0.500	3/16	1/32	C990278
SNMG433-PM4	SNMG120412-PM4	TP15CG	1/2	0.500	3/16	3/64	C990280
SNMG433-PM4	SNMG120412-PM4	TP25CG	1/2	0.500	3/16	3/64	C990282
SNMG434-PM4	SNMG120416-PM4	TP25CG	1/2	0.500	3/16	1/16	C990284
SNMG542-PM4	SNMG150608-PM4	TP15CG	5/8	0.625	1/4	1/32	C990286
SNMG542-PM4	SNMG150608-PM4	TP25CG	5/8	0.625	1/4	1/32	C990288
SNMG543-PM4	SNMG150612-PM4	TP15CG	5/8	0.625	1/4	3/64	C990290
SNMG543-PM4	SNMG150612-PM4	TP25CG	5/8	0.625	1/4	3/64	C990292
SNMG643-PM4	SNMG190612-PM4	TP15CG	3/4	0.750	1/4	3/64	C990294
SNMG643-PM4	SNMG190612-PM4	TP25CG	3/4	0.750	1/4	3/64	C990296

## ► LISTA: SNMG-KR



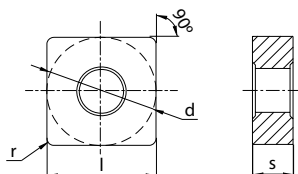
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG432-KR	SNMG120408-KR	TK15CG	1/2	0.500	3/16	1/32	C990360
SNMG432-KR	SNMG120408-KR	TK25CG	1/2	0.500	3/16	1/32	C990362
SNMG433-KR	SNMG120412-KR	TK15CG	1/2	0.500	3/16	3/64	C990364
SNMG433-KR	SNMG120412-KR	TK25CG	1/2	0.500	3/16	3/64	C990366
SNMG434-KR	SNMG120416-KR	TK25CG	1/2	0.500	3/16	1/16	C990368
SNMG543-KR	SNMG150612-KR	TK15CG	5/8	0.625	1/4	3/64	C990370
SNMG543-KR	SNMG150612-KR	TK25CG	5/8	0.625	1/4	3/64	C990372
SNMG544-KR	SNMG150616-KR	TK25CG	5/8	0.625	1/4	1/16	C990374
SNMG643-KR	SNMG190612-KR	TK15CG	3/4	0.750	1/4	3/64	C990376
SNMG643-KR	SNMG190612-KR	TK25CG	3/4	0.750	1/4	3/64	C990378
SNMG644-KR	SNMG190616-KR	TK25CG	3/4	0.750	1/4	1/16	C990380

## LISTA: SNMG-MM2



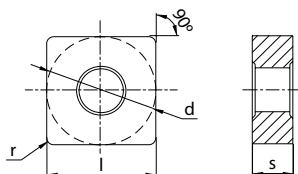
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG321-MM2	SNMG090304-MM2	CM6125	3/8	0.375	1/8	1/64	C990316
SNMG321-MM2	SNMG090304-MM2	TM10CB	3/8	0.375	1/8	1/64	C990318
SNMG322-MM2	SNMG090308-MM2	CM6125	3/8	0.375	1/8	1/32	C990320
SNMG322-MM2	SNMG090308-MM2	TM10CB	3/8	0.375	1/8	1/32	C990322
SNMG431-MM2	SNMG120404-MM2	CM6125	1/2	0.500	3/16	1/64	C990324
SNMG431-MM2	SNMG120404-MM2	TM10CB	1/2	0.500	3/16	1/64	C990326
SNMG432-MM2	SNMG120408-MM2	CM6125	1/2	0.500	3/16	1/32	C990328
SNMG432-MM2	SNMG120408-MM2	TM10CB	1/2	0.500	3/16	1/32	C990330
SNMG433-MM2	SNMG120412-MM2	CM6125	1/2	0.500	3/16	3/64	C990434
SNMG433-MM2	SNMG120412-MM2	TM10CB	1/2	0.500	3/16	3/64	C990334
SNMG434-MM2	SNMG120416-MM2	CM6125	1/2	0.500	3/16	1/16	C990336
SNMG434-MM2	SNMG120416-MM2	TM10CB	1/2	0.500	3/16	1/16	C990338
SNMG542-MM2	SNMG150608-MM2	CM6125	5/8	0.625	1/4	1/32	C990340
SNMG542-MM2	SNMG150608-MM2	TM10CB	5/8	0.625	1/4	1/32	C990342
SNMG543-MM2	SNMG150612-MM2	CM6125	5/8	0.625	1/4	3/64	C990344
SNMG543-MM2	SNMG150612-MM2	TM10CB	5/8	0.625	1/4	3/64	C990346
SNMG544-MM2	SNMG150616-MM2	CM6125	5/8	0.625	1/4	1/16	C990348
SNMG544-MM2	SNMG150616-MM2	TM10CB	5/8	0.625	1/4	1/16	C990350
SNMG643-MM2	SNMG190612-MM2	CM6125	3/4	0.750	1/4	3/64	C990352
SNMG643-MM2	SNMG190612-MM2	TM10CB	3/4	0.750	1/4	3/64	C990354
SNMG644-MM2	SNMG190616-MM2	CM6125	3/4	0.750	1/4	1/16	C990356
SNMG644-MM2	SNMG190616-MM2	TM10CB	3/4	0.750	1/4	1/16	C990358

## LISTA: SNMG-MF2



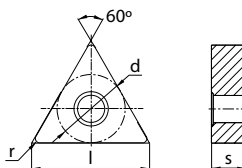
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMG431-MF2	SNMG120404-MF2	TS15CG	1/2	0.500	3/16	1/64	C991316
SNMG432-MF2	SNMG120408-MF2	TS15CG	1/2	0.500	3/16	1/32	C991318

## LISTA: SNMA



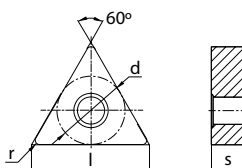
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SNMA432	SNMA120408	TK25CG	1/2	0.500	3/16	1/32	C991244
SNMA432	SNMA120408	TK15CG	1/2	0.500	3/16	1/32	C991246
SNMA433	SNMA120412	TK15CG	1/2	0.500	3/16	3/64	C991248
SNMA643	SNMA190612	TK25CG	3/4	0.751	1/4	3/64	C991250
SNMA643	SNMA190612	TK15CG	3/4	0.751	1/4	3/64	C991252
SNMA644	SNMA190616	TK25CG	3/4	0.751	1/4	1/16	C991254
SNMA644	SNMA190616	TK15CG	3/4	0.751	1/4	1/16	C991256

## LISTA: TNMG-PF4



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG331-PF4	TNMG160404-PF4	TP15CG	3/8	0.650	3/16	1/64	C990382
TNMG331-PF4	TNMG160404-PF4	TP25CG	3/8	0.650	3/16	1/64	C990384
TNMG332-PF4	TNMG160408-PF4	TP15CG	3/8	0.650	3/16	1/32	C990386
TNMG332-PF4	TNMG160408-PF4	TP25CG	3/8	0.650	3/16	1/32	C990388
TNMG431-PF4	TNMG220404-PF4	TP15CG	1/2	0.866	3/16	1/64	C990390
TNMG431-PF4	TNMG220404-PF4	TP25CG	1/2	0.866	3/16	1/64	C990392
TNMG432-PF4	TNMG220408-PF4	TP15CG	1/2	0.866	3/16	1/32	C990394
TNMG432-PF4	TNMG220408-PF4	TP25CG	1/2	0.866	3/16	1/32	C990396

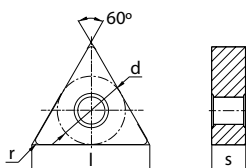
## LISTA: TNMG-PV



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG331R-PV	TNMG160404R-PV	TP25CG	3/8	0.650	3/16	1/64	C990398
TNMG331L-PV	TNMG160404L-PV	TP25CG	3/8	0.650	3/16	1/64	C990400
TNMG332R-PV	TNMG160408R-PV	TP25CG	3/8	0.650	3/16	1/32	C990402
TNMG332L-PV	TNMG160408L-PV	TP25CG	3/8	0.650	3/16	1/32	C990404

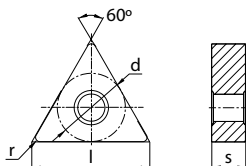


## ▶ LISTA:TNMG-PR4



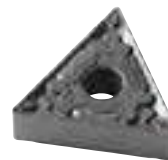
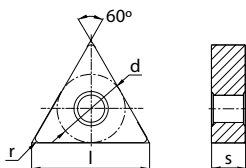
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG433-PR4	TNMG220412-PR4	TP25CG	1/2	0.866	3/16	3/64	C990436
TNMG433-PR4	TNMG220412-PR4	TP34CG	1/2	0.866	3/16	3/64	C990438
TNMG434-PR4	TNMG220416-PR4	TP34CG	1/2	0.866	3/16	1/16	C990440
TNMG543-PR4	TNMG270612-PR4	TP25CG	5/8	1.083	1/4	3/64	C990442
TNMG543-PR4	TNMG270612-PR4	TP34CG	5/8	1.083	1/4	3/64	C990444
TNMG544-PR4	TNMG270616-PR4	TP34CG	5/8	1.083	1/4	1/16	C990446
TNMG332-PR4	TNMG160408-PR4	TP34CG	3/8	0.650	3/16	1/32	C994436
TNMG332-PR4	TNMG160408-PR4	TP25CG	3/8	0.650	3/16	1/32	C994438
TNMG333-PR4	TNMG160412-PR4	TP34CG	3/8	0.650	3/16	3/64	C994440
TNMG333-PR4	TNMG160412-PR4	TP25CG	3/8	0.650	3/16	3/64	C994442

## ▶ LISTA: TNMG-PM4



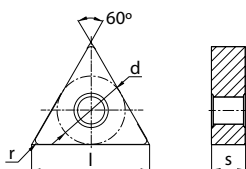
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG221-PM4	TNMG110304-PM4	TP15CG	0.433	0.433	1/8	1/64	C990406
TNMG221-PM4	TNMG110304-PM4	TP25CG	0.433	0.433	1/8	1/64	C990408
TNMG222-PM4	TNMG110308-PM4	TP15CG	0.433	0.433	1/8	1/32	C990410
TNMG222-PM4	TNMG110308-PM4	TP25CG	0.433	0.433	1/8	1/32	C990412
TNMG331-PM4	TNMG160404-PM4	TP15CG	0.650	0.650	3/16	1/64	C990414
TNMG331-PM4	TNMG160404-PM4	TP25CG	0.650	0.650	3/16	1/64	C990416
TNMG332-PM4	TNMG160408-PM4	TP15CG	0.650	0.650	3/16	1/32	C990418
TNMG332-PM4	TNMG160408-PM4	TP25CG	0.650	0.650	3/16	1/32	C990420
TNMG333-PM4	TNMG160412-PM4	TP15CG	0.650	0.650	3/16	3/64	C990422
TNMG333-PM4	TNMG160412-PM4	TP25CG	0.650	0.650	3/16	3/64	C990424
TNMG432-PM4	TNMG220408-PM4	TP15CG	0.866	0.866	3/16	1/32	C990426
TNMG432-PM4	TNMG220408-PM4	TP25CG	0.866	0.866	3/16	1/32	C990428
TNMG433-PM4	TNMG220412-PM4	TP15CG	0.866	0.866	3/16	3/64	C990430
TNMG433-PM4	TNMG220412-PM4	TP25CG	0.866	0.866	3/16	3/64	C990432

## ► LISTA:TNMG-MF2



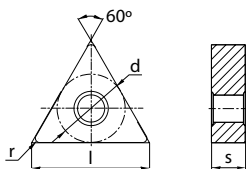
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG331-MF2	TNMG160404-MF2	TS15CG	3/8	0.650	3/16	1/6	C990448
TNMG332-MF2	TNMG160408-MF2	TS15CG	3/8	0.650	3/16	1/32	C990450

## ► LISTA: TNMG-MM2



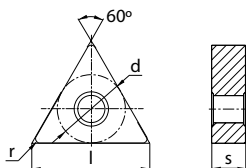
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG331-MM2	TNMG160404-MM2	CM6125	3/8	0.650	3/16	1/64	C990452
TNMG331-MM2	TNMG160404-MM2	TM10CB	3/8	0.650	3/16	1/64	C990454
TNMG332-MM2	TNMG160408-MM2	CM6125	3/8	0.650	3/16	1/32	C990456
TNMG332-MM2	TNMG160408-MM2	TM10CB	3/8	0.650	3/16	1/32	C990458
TNMG333-MM2	TNMG160412-MM2	CM6125	3/8	0.650	3/16	3/64	C990460
TNMG333-MM2	TNMG160412-MM2	TM10CB	3/8	0.650	3/16	3/64	C990462
TNMG432-MM2	TNMG220408-MM2	CM6125	1/2	0.866	3/16	1/32	C990464
TNMG432-MM2	TNMG220408-MM2	TM10CB	1/2	0.866	3/16	1/32	C990466
TNMG433-MM2	TNMG220412-MM2	CM6125	1/2	0.866	3/16	3/64	C990468
TNMG433-MM2	TNMG220412-MM2	TM10CB	1/2	0.866	3/16	3/64	C990470
TNMG434-MM2	TNMG220416-MM2	CM6125	1/2	0.866	3/16	1/16	C990472
TNMG434-MM2	TNMG220416-MM2	TM10CB	1/2	0.866	3/16	1/16	C990474

## ► LISTA:TNMG-KM



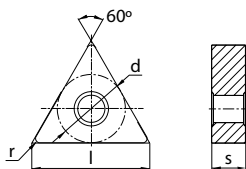
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG331-KM	TNMG160404-KM	TK15CG	3/8	0.650	3/16	1/64	C990476
TNMG331-KM	TNMG160404-KM	TK25CG	3/8	0.650	3/16	1/64	C990478
TNMG332-KM	TNMG160408-KM	TK15CG	3/8	0.650	3/16	1/32	C990480
TNMG332-KM	TNMG160408-KM	TK25CG	3/8	0.650	3/16	1/32	C990482
TNMG432-KM	TNMG220408-KM	TK15CG	1/2	0.866	3/16	1/32	C990477

## ▶ LISTA: TNMG-KR



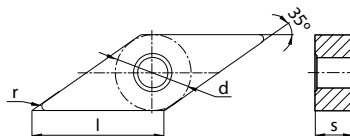
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMG332-KR	TNMG160408-KR	TK15CG	3/8	0.650	3/16	1/32	C990484
TNMG332-KR	TNMG160408-KR	TK25CG	3/8	0.650	3/16	1/32	C990486
TNMG333-KR	TNMG160412-KR	TK15CG	3/8	0.650	3/16	3/64	C990488
TNMG333-KR	TNMG160412-KR	TK25CG	3/8	0.650	3/16	3/64	C990490
TNMG432-KR	TNMG220408-KR	TK15CG	1/2	0.866	3/16	1/32	C990492
TNMG432-KR	TNMG220408-KR	TK25CG	1/2	0.866	3/16	1/32	C990494
TNMG433-KR	TNMG220412-KR	TK15CG	1/2	0.866	3/16	3/64	C990496
TNMG433-KR	TNMG220412-KR	TK25CG	1/2	0.866	3/16	3/64	C990498
TNMG434-KR	TNMG220416-KR	TK25CG	1/2	0.866	3/16	1/16	C990500
TNMG543-KR	TNMG270612-KR	TK15CG	5/8	1.083	1/4	3/64	C990502
TNMG543-KR	TNMG270612-KR	TK25CG	5/8	1.083	1/4	3/64	C990504
TNMG544-KR	TNMG270616-KR	TK15CG	5/8	1.083	1/4	1/16	C990506

## ▶ LISTA: TNMA



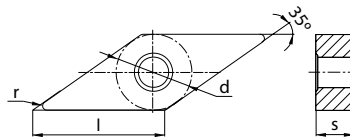
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TNMA332	TNMA160408	TK25CG	3/8	0.650	3/16	1/32	C991382
TNMA332	TNMA160408	TK15CG	3/8	0.650	3/16	1/32	C991384
TNMA333	TNMA160412	TK25CG	3/8	0.650	3/16	3/64	C991386
TNMA333	TNMA160412	TK15CG	3/8	0.650	3/16	3/64	C991388
TNMA432	TNMA220408	TK25CG	1/2	0.866	3/16	1/32	C991400
TNMA434	TNMA220416	TK15CG	1/2	0.866	3/16	1/16	C991402

## ▶ LISTA: VNMG-PF4



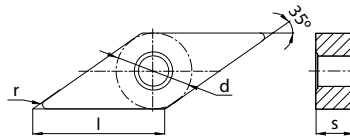
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VNMG331-PF4	VNMG160404-PF4	TP15CG	3/8	0.654	3/16	1/64	C990508
VNMG331-PF4	VNMG160404-PF4	TP25CG	3/8	0.654	3/16	1/64	C990510
VNMG332-PF4	VNMG160408-PF4	TP15CG	3/8	0.654	3/16	1/32	C990512
VNMG332-PF4	VNMG160408-PF4	TP25CG	3/8	0.654	3/16	1/32	C990514
VNMG431-PF4	VNMG220404-PF4	TP15CG	1/2	0.872	3/16	1/64	C990516
VNMG432-PF4	VNMG220408-PF4	TP15CG	1/2	0.872	3/16	1/32	C990518

## ▶ LISTA: VNMG-PM4



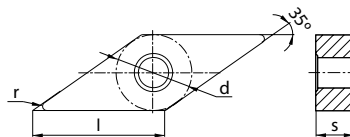
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VNMG331-PM4	VNMG160404-PM4	TP15CG	3/8	0.654	3/16	1/64	C990520
VNMG331-PM4	VNMG160404-PM4	TP25CG	3/8	0.654	3/16	1/64	C990522
VNMG332-PM4	VNMG160408-PM4	TP15CG	3/8	0.654	3/16	1/32	C990524
VNMG332-PM4	VNMG160408-PM4	TP25CG	3/8	0.654	3/16	1/32	C990526
VNMG333-PM4	VNMG160412-PM4	TP15CG	3/8	0.654	3/16	3/64	C990528
VNMG333-PM4	VNMG160412-PM4	TP25CG	3/8	0.654	3/16	3/64	C990530

## ▶ LISTA: VNMG-MF2



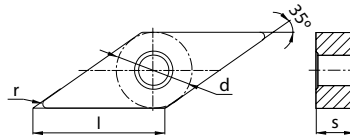
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VNMG331-MF2	VNMG160404-MF2	TS15CG	3/8	0.654	3/16	1/64	C990532
VNMG332-MF2	VNMG160408-MF2	TS15CG	3/8	0.654	3/16	1/32	C990534

## ▶ LISTA: VNMG-MM2



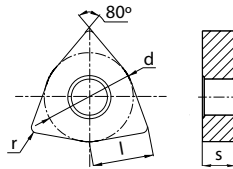
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VNMG331-MM2	VNMG160404-MM2	CM6125	3/8	0.654	3/16	1/64	C990536
VNMG331-MM2	VNMG160404-MM2	TM10CB	3/8	0.654	3/16	1/64	C990538
VNMG332-MM2	VNMG160408-MM2	CM6125	3/8	0.654	3/16	1/32	C990540
VNMG332-MM2	VNMG160408-MM2	TM10CB	3/8	0.654	3/16	1/32	C990542

## ▶ LISTA: VNMG-KM



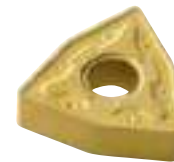
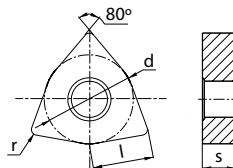
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VNMG331-KM	VNMG160404-KM	TK15CG	3/8	0.654	3/16	1/64	C990544
VNMG331-KM	VNMG160404-KM	TK25CG	3/8	0.654	3/16	1/64	C990546
VNMG332-KM	VNMG160408-KM	TK15CG	3/8	0.654	3/16	1/32	C990548
VNMG332-KM	VNMG160408-KM	TK25CG	3/8	0.654	3/16	1/32	C990550

## ▶ LISTA: WNMG-PF4



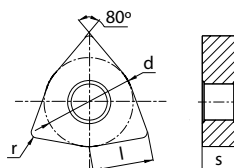
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG331-PF4	WNMG060404-PF4	TP15CG	3/8	0.257	3/16	1/64	C990552
WNMG331-PF4	WNMG060404-PF4	TP25CG	3/8	0.257	3/16	1/64	C990554
WNMG332-PF4	WNMG060408-PF4	TP15CG	3/8	0.257	3/16	1/32	C990556
WNMG332-PF4	WNMG060408-PF4	TP25CG	3/8	0.257	3/16	1/32	C990558
WNMG431-PF4	WNMG080404-PF4	TP15CG	1/2	0.342	3/16	1/64	C990560
WNMG431-PF4	WNMG080404-PF4	TP25CG	1/2	0.342	3/16	1/64	C990562
WNMG432-PF4	WNMG080408-PF4	TP15CG	1/2	0.342	3/16	1/32	C990564
WNMG432-PF4	WNMG080408-PF4	TP25CG	1/2	0.342	3/16	1/32	C990566

## ▶ LISTA: WNMG-PR4



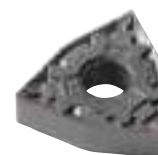
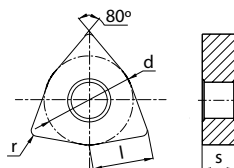
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG432-PR4	WNMG080408-PR4	TP34CG	1/2	0.342	3/16	1/32	C990592
WNMG433-PR4	WNMG080412-PR4	TP25CG	1/2	0.342	3/16	3/64	C990594
WNMG433-PR4	WNMG080412-PR4	TP34CG	1/2	0.342	3/16	3/64	C990596
WNMG434-PR4	WNMG080416-PR4	TP34CG	1/2	0.342	3/16	1/16	C990598

## ► LISTA: WNMG-PM4



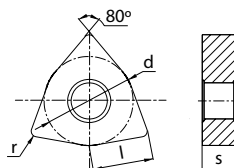
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG331-PM4	WNMG060404-PM4	TP15CG	3/8	0.257	3/16	1/64	C990568
WNMG331-PM4	WNMG060404-PM4	TP25CG	3/8	0.257	3/16	1/64	C990570
WNMG332-PM4	WNMG060408-PM4	TP15CG	3/8	0.257	3/16	1/32	C990572
WNMG332-PM4	WNMG060408-PM4	TP25CG	3/8	0.257	3/16	1/32	C990574
WNMG431-PM4	WNMG080404-PM4	TP15CG	1/2	0.342	3/16	1/64	C990576
WNMG431-PM4	WNMG080404-PM4	TP25CG	1/2	0.342	3/16	1/64	C990578
WNMG432-PM4	WNMG080408-PM4	TP15CG	1/2	0.342	3/16	1/32	C990580
WNMG432-PM4	WNMG080408-PM4	TP25CG	1/2	0.342	3/16	1/32	C990582
WNMG433-PM4	WNMG080412-PM4	TP15CG	1/2	0.342	3/16	3/64	C990584
WNMG433-PM4	WNMG080412-PM4	TP25CG	1/2	0.342	3/16	3/64	C990586
WNMG434-PM4	WNMG080416-PM4	TP25CG	1/2	0.342	3/16	1/16	C990588

## ► LISTA: WNMG-MF2



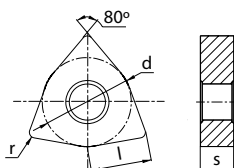
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG431-MF2	WNMG080404-MF2	TS15CG	1/2	0.342	3/16	1/64	C990600
WNMG432-MF2	WNMG080408-MF2	TS15CG	1/2	0.342	3/16	1/32	C990602

## ► LISTA: WNMA



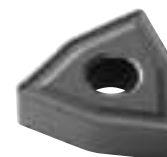
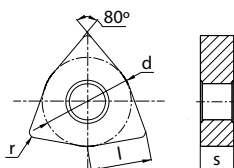
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMA432	WNMA080408	TK25CG	1/2	0.324	3/16	1/32	C991552
WNMA432	WNMA080408	TK15CG	1/2	0.324	3/16	1/32	C991554
WNMA433	WNMA080412	TK25CG	1/2	0.342	3/16	3/64	C991556
WNMA433	WNMA080412	TK15CG	1/2	0.342	3/16	3/64	C991558

## ▶ LISTA: WNMG-MM2



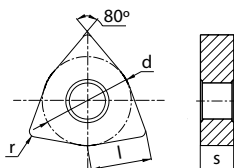
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG331-MM2	WNMG060404-MM2	CM6125	3/8	0.257	3/16	1/64	C990604
WNMG331-MM2	WNMG060404-MM2	TM10CB	3/8	0.257	3/16	1/64	C990606
WNMG332-MM2	WNMG060408-MM2	CM6125	3/8	0.257	3/16	1/32	C990608
WNMG332-MM2	WNMG060408-MM2	TM10CB	3/8	0.257	3/16	1/32	C990610
WNMG333-MM2	WNMG060412-MM2	CM6125	3/8	0.257	3/16	3/64	C990612
WNMG333-MM2	WNMG060412-MM2	TM10CB	3/8	0.257	3/16	3/64	C990614
WNMG431-MM2	WNMG080404-MM2	CM6125	1/2	0.342	3/16	1/64	C990616
WNMG431-MM2	WNMG080404-MM2	TM10CB	1/2	0.342	3/16	1/64	C990618
WNMG432-MM2	WNMG080408-MM2	CM6125	1/2	0.342	3/16	1/32	C990620
WNMG432-MM2	WNMG080408-MM2	TM10CB	1/2	0.342	3/16	1/32	C990622
WNMG433-MM2	WNMG080412-MM2	CM6125	1/2	0.342	3/16	3/64	C990624
WNMG433-MM2	WNMG080412-MM2	TM10CB	1/2	0.342	3/16	3/64	C990626

## ▶ LISTA: WNMG-KM



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG431-KM	WNMG080404-KM	TK15CG	1/2	0.342	3/16	1/64	C990628
WNMG431-KM	WNMG080404-KM	TK25CG	1/2	0.342	3/16	1/64	C990630
WNMG432-KM	WNMG080408-KM	TK15CG	1/2	0.342	3/16	1/32	C990632
WNMG432-KM	WNMG080408-KM	TK25CG	1/2	0.342	3/16	1/32	C990634

## ▶ LISTA: WNMG-KR



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WNMG432-KR	WNMG080408-KR	TK15CG	1/2	0.342	3/16	1/32	C990636
WNMG432-KR	WNMG080408-KR	TK25CG	1/2	0.342	3/16	1/32	C990638
WNMG433-KR	WNMG080412-KR	TK15CG	1/2	0.342	3/16	3/64	C990640
WNMG433-KR	WNMG080412-KR	TK25CG	1/2	0.342	3/16	3/64	C990642

# ▶ INSERTOS POSITIVOS



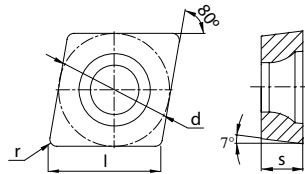
## ▶ LISTA: CCMT-KM



TP25CG

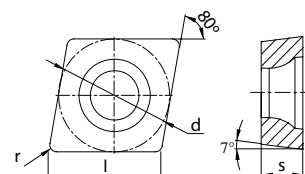


TP15CG



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CCMT2(1.5)1-KM	CCMT060204-KM	TP25CG	1/4	0.254	3/32	1/64	C990644
CCMT2(1.5)1-KM	CCMT060204-KM	TK15CG	1/4	0.254	3/32	1/64	C990646
CCMT2(1.5)2-KM	CCMT060208-KM	TP25CG	1/4	0.254	3/32	1/32	C990648
CCMT2(1.5)2-KM	CCMT060208-KM	TK15CG	1/4	0.254	3/32	1/32	C990650
CCMT3(2.5)0.5-KM	CCMT09T302-KM	TP25CG	3/8	0.381	5/32	0.008	C990652
CCMT3(2.5)0.5-KM	CCMT09T302-KM	TK15CG	3/8	0.381	5/32	0.008	C990654
CCMT3(2.5)1-KM	CCMT09T304-KM	TP25CG	3/8	0.381	5/32	1/64	C990656
CCMT3(2.5)1-KM	CCMT09T304-KM	TK15CG	3/8	0.381	5/32	1/64	C990658
CCMT3(2.5)2-KM	CCMT09T308-KM	TP25CG	3/8	0.381	5/32	1/32	C990660
CCMT3(2.5)2-KM	CCMT09T308-KM	TK15CG	3/8	0.381	5/32	1/32	C990662
CCMT431-KM	CCMT120404-KM	TP25CG	1/2	0.508	3/16	1/64	C990664
CCMT431-KM	CCMT120404-KM	TK15CG	1/2	0.508	3/16	1/64	C990666
CCMT432-KM	CCMT120408-KM	TP25CG	1/2	0.508	3/16	1/32	C990668
CCMT432-KM	CCMT120408-KM	TK15CG	1/2	0.508	3/16	1/32	C990670
CCMT433-KM	CCMT120412-KM	TP25CG	1/2	0.508	3/16	3/64	C990672
CCMT433-KM	CCMT120412-KM	TK15CG	1/2	0.508	3/16	3/64	C990674

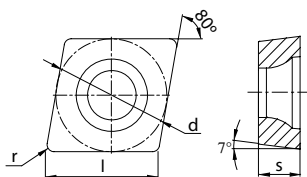
## ▶ LISTA: CCMT-MM2



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CCMT3251-MM2	CCMT09T304-MM2	CM6125	3/8	0.381	5/32	1/64	C994644
CCMT3252-MM2	CCMT09T308-MM2	CM6125	3/8	0.381	5/32	1/32	C994646

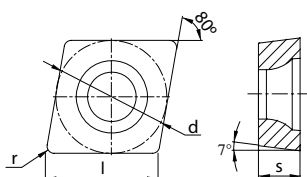


## ▶ LISTA: CCGT-KM



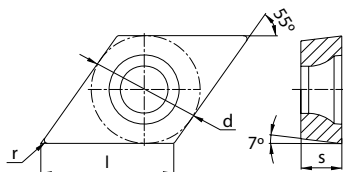
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CCGT2(1.5)1-KM	CCGT060204-KM	CP2425	1/4	0.254	3/32	1/64	C990676
CCGT2(1.5)2-KM	CCGT060208-KM	CP2425	1/4	0.254	3/32	1/32	C990678
CCGT3(2.5) 0.5-KM	CCGT09T302-KM	CP2425	3/8	0.381	5/32	0.008	C990680
CCGT3(2.5)1-KM	CCGT09T304-KM	CP2425	3/8	0.381	5/32	1/64	C990682
CCGT3(2.5)2-KM	CCGT09T308-KM	CP2425	3/8	0.381	5/32	1/32	C990684
CCGT431-KM	CCGT120404-KM	CP2425	1/2	0.508	3/16	1/64	C990686
CCGT432-KM	CCGT120408-KM	CP2425	1/2	0.508	3/16	1/32	C990688

## ▶ LISTA: CPGT-KM



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CPGT2(1.5)1 -KM	CPGT060204-KM	CP2425	1/4	0.254	3/32	1/64	C990690
CPGT2(1.5)2 -KM	CPGT060208-KM	CP2425	1/4	0.254	3/32	1/32	C990692
CPGT3(2.5) 0.5-KM	CPGT09T302-KM	CP2425	3/8	0.381	5/32	0.008	C990694
CPGT3(2.5)1 -KM	CPGT09T304-KM	CP2425	3/8	0.381	5/32	1/64	C990696
CPGT3(2.5)2 -KM	CPGT09T308-KM	CP2425	3/8	0.381	5/32	1/32	C990698
CPGT431-KM	CPGT120404-KM	CP2425	1/2	0.508	3/16	1/64	C990700
CPGT432-KM	CPGT120408-KM	CP2425	1/2	0.508	3/16	1/32	C990702

## ▶ LISTA: DCGT-KM



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DCGT2(1.5)0.5 -AP	DCGT070202-AP	CP2425	1/4	0.305	3/32	0.008	C990736
DCGT2(1.5)1-AP	DCGT070204-AP	CP2425	1/4	0.305	3/32	1/64	C990738
DCGT2(1.5)2-AP	DCGT070208-AP	CP2425	1/4	0.305	3/32	1/32	C990740
DCGT3(2.5)0.5 -AP	DCGT11T302-AP	CP2425	3/8	0.458	5/32	0.008	C990742
DCGT3(2.5)1-AP	DCGT11T304-AP	CP2425	3/8	0.458	5/32	1/64	C990744
DCGT3(2.5)2-AP	DCGT11T308-AP	CP2425	3/8	0.458	5/32	1/32	C990746

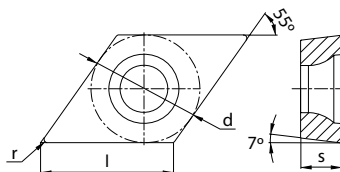
## ► LISTA: DCMT-KM



TP25CG



TP15CG



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DCMT2(1.5)1 -KM	DCMT070204-KM	TP25CG	1/4	0.305	3/32	1/64	C990704
DCMT2(1.5)1 -KM	DCMT070204-KM	TK15CG	1/4	0.305	3/32	1/64	C990706
DCMT2(1.5)2 -KM	DCMT070208-KM	TP25CG	1/4	0.305	3/32	1/32	C990708
DCMT2(1.5)2 -KM	DCMT070208-KM	TK15CG	1/4	0.305	3/32	1/32	C990710
DCMT3(2.5)0.5-KM	DCMT11T302-KM	TP25CG	3/8	0.458	5/32	0.008	C990712
DCMT3(2.5)0.5-KM	DCMT11T302-KM	TK15CG	3/8	0.458	5/32	0.008	C990714
DCMT3(2.5)1 -KM	DCMT11T304-KM	TP25CG	3/8	0.458	5/32	1/64	C990716
DCMT3(2.5)1 -KM	DCMT11T304-KM	TK15CG	3/8	0.458	5/32	1/64	C990718
DCMT3(2.5)2 -KM	DCMT11T308-KM	TP25CG	3/8	0.458	5/32	1/32	C990720
DCMT3(2.5)2 -KM	DCMT11T308-KM	TK15CG	3/8	0.458	5/32	1/32	C990722
DCMT431-KM	DCMT150404-KM	TP25CG	1/2	0.610	3/16	1/64	C990724
DCMT431-KM	DCMT150404-KM	TK15CG	1/2	0.610	3/16	1/64	C990726
DCMT432-KM	DCMT150408-KM	TP25CG	1/2	0.610	3/16	1/32	C990728
DCMT432-KM	DCMT150408-KM	TK15CG	1/2	0.610	3/16	1/32	C990730
DCMT433-KM	DCMT150412-KM	TP25CG	1/2	0.610	3/16	3/64	C990732
DCMT433-KM	DCMT150412-KM	TK15CG	1/2	0.610	3/16	3/64	C990734

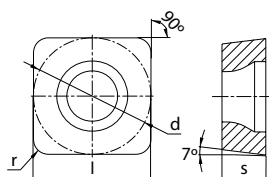
## ► LISTA: SCMT-KM



TP25CG



TP15CG



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SCMT3(2.5)1-KM	SCMT09T304-KM	TP25CG	3/8	0.375	5/32	1/64	C990748
SCMT3(2.5)1-KM	SCMT09T304-KM	TK15CG	3/8	0.375	5/32	1/64	C990750
SCMT3(2.5)2-KM	SCMT09T308-KM	TP25CG	3/8	0.375	5/32	1/32	C990752
SCMT3(2.5)2-KM	SCMT09T308-KM	TK15CG	3/8	0.375	5/32	1/32	C990754
SCMT431-KM	SCMT120404-KM	TP25CG	1/2	0.500	3/16	1/64	C990756
SCMT431-KM	SCMT120404-KM	TK15CG	1/2	0.500	3/16	1/64	C990758
SCMT432-KM	SCMT120408-KM	TP25CG	1/2	0.500	3/16	1/32	C990760
SCMT432-KM	SCMT120408-KM	TK15CG	1/2	0.500	3/16	1/32	C990762

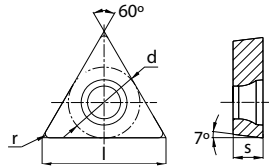
## ► LISTA: TCMT-KM



TP25CG

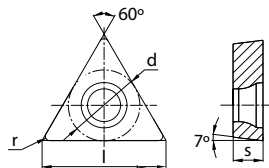


TP15CG



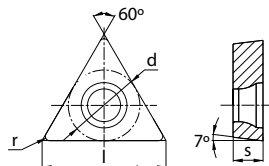
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TCMT2(1.5)1-KM	TCMT110204-KM	TP25CG	1/4	0.433	3/32	1/64	C990764
TCMT2(1.5)1-KM	TCMT110204-KM	TK15CG	1/4	0.433	3/32	1/64	C990766
TCMT2(1.5)2-KM	TCMT110208-KM	TP25CG	1/4	0.433	3/32	1/32	C990768
TCMT2(1.5)2-KM	TCMT110208-KM	TK15CG	1/4	0.433	3/32	1/32	C990770
TCMT3(2.5)1-KM	TCMT16T304-KM	TP25CG	3/8	0.650	5/32	1/64	C990772
TCMT3(2.5)1-KM	TCMT16T304-KM	TK15CG	3/8	0.650	5/32	1/64	C990774
TCMT3(2.5)2-KM	TCMT16T308-KM	TP25CG	3/8	0.650	5/32	1/32	C990776
TCMT3(2.5)2-KM	TCMT16T308-KM	TK15CG	3/8	0.650	5/32	1/32	C990778
TCMT432-KM	TCMT220408-KM	TP25CG	1/2	0.866	3/16	1/32	C990780
TCMT432-KM	TCMT220408-KM	TK15CG	1/2	0.866	3/16	1/32	C990782

## ► LISTA: TCGT-KM



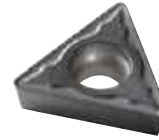
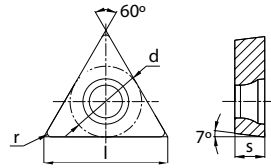
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TCGT 1.8(1.5)1-KM	TCGT090204-KM	CP2425	7/32	0.379	3/32	1/64	C990784
TCGT2(1.5)0.5-KM	TCGT110202-KM	CP2425	1/4	0.433	3/32	0.008	C990786
TCGT2(1.5)1 -KM	TCGT110204-KM	CP2425	1/4	0.433	3/32	1/64	C990788
TCGT2(1.5)2 -KM	TCGT110208-KM	CP2425	1/4	0.433	3/32	1/32	C990790
TCGT3(2.5)1 -KM	TCGT16T304-KM	CP2425	3/8	0.650	5/32	1/64	C990792
TCGT3(2.5)2 -KM	TCGT16T308-KM	CP2425	3/8	0.650	5/32	1/32	C990794

## ► LISTA: TCMT-PM2



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TCMT325-PM2	TCMT16T304-PM2	TP25CG	3/8	0.650	5/32	1/64	C991646

## ▶ LISTA: TPGT-KM



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TPGT2(1.5)1 -KM	TPGT110204-KM	CP2425	1/4	0.433	3/32	1/64	C990796
TPGT2(1.5)2 -KM	TPGT110208-KM	CP2425	1/4	0.433	3/32	1/32	C990798
TPGT3(2.5)1 -KM	TPGT16T304-KM	CP2425	3/8	0.650	5/32	1/64	C990800
TPGT3(2.5)2 -KM	TPGT16T308-KM	CP2425	3/8	0.650	5/32	1/32	C990802

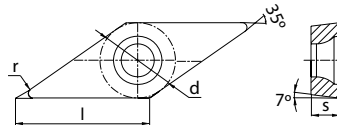
## ▶ LISTA: VBMT-KM



TP25CG



TP15CG



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VBMT331-KM	VBMT160404-KM	TP25CG	3/8	0.654	3/16	1/64	C990804
VBMT331-KM	VBMT160404-KM	TK15CG	3/8	0.654	3/16	1/64	C990806
VBMT332-KM	VBMT160408-KM	TP25CG	3/8	0.654	3/16	1/32	C990808
VBMT332-KM	VBMT160408-KM	TK15CG	3/8	0.654	3/16	1/32	C990810

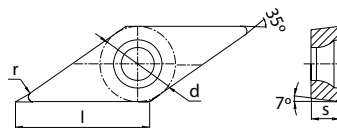
## ▶ LISTA: VCMT-KM



TP25CG

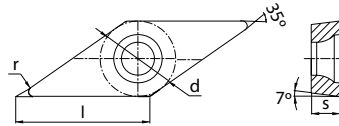


TP15CG



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VCMT221-KM	VCMT110304-KM	TP25CG	1/4	0.436	1/8	1/64	C990812
VCMT221-KM	VCMT110304-KM	TK15CG	1/4	0.436	1/8	1/64	C990814
VCMT331-KM	VCMT160404-KM	TP25CG	3/8	0.654	3/16	1/64	C990816
VCMT331-KM	VCMT160404-KM	TK15CG	3/8	0.654	3/16	1/64	C990818
VCMT332-KM	VCMT160408-KM	TP25CG	3/8	0.654	3/16	1/32	C990820
VCMT332-KM	VCMT160408-KM	TK15CG	3/8	0.654	3/16	1/32	C990822

## ▶ LISTA: VCGT-KM



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VCGT221-KM	VCGT110304-KM	CP2425	1/4	0.436	1/8	1/64	C990824
VCGT331-KM	VCGT160404-KM	CP2425	3/8	0.654	3/16	1/64	C990826
VCGT332-KM	VCGT160408-KM	CP2425	3/8	0.654	3/16	1/32	C990828

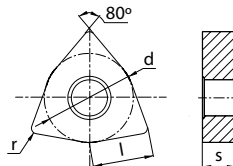
## ▶ LISTA: WCMT-KM



TP25CG

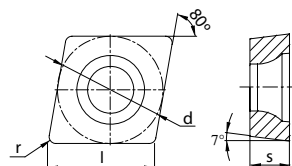


TP15CG



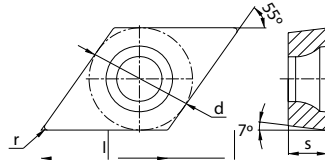
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
WCMT 3(2.5)1-KM	WCMT06T304-KM	TP25CG	3/8	0.257	5/32	1/64	C990830
WCMT 3(2.5)1-KM	WCMT06T304-KM	TK15CG	3/8	0.257	5/32	1/64	C990832
WCMT 3(2.5)2-KM	WCMT06T308-KM	TP25CG	3/8	0.257	5/32	1/32	C990834
WCMT 3(2.5)2-KM	WCMT06T308-KM	TK15CG	3/8	0.257	5/32	1/32	C990836

## ▶ LISTA: CCGX-AL



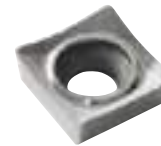
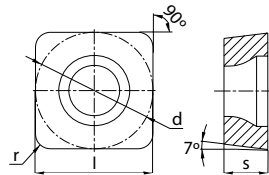
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
CCGX2(1.5)1-AL	CCGX060204-AL	TN10CB	1/4	0.254	3/32	1/64	C990838
CCGX2(1.5)2-AL	CCGX060208-AL	TN10CB	1/4	0.254	3/32	1/32	C990840
CCGX3(2.5)1-AL	CCGX09T304-AL	TN10CB	3/8	0.381	5/32	1/64	C990842
CCGX3(2.5)2-AL	CCGX09T308-AL	TN10CB	3/8	0.381	5/32	1/32	C990844
CCGX431-AL	CCGX120404-AL	TN10CB	1/2	0.508	3/16	1/64	C990846
CCGX432-AL	CCGX120408-AL	TN10CB	1/2	0.508	3/16	1/32	C990848

## ► LISTA: DCGX-AL



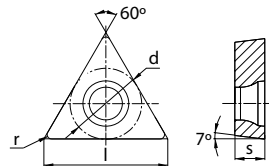
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
DCGX2(1.5)1-AL	DCGX070204-AL	TN10CB	1/4	0.305	3/32	1/64	C990850
DCGX2(1.5)2-AL	DCGX070208-AL	TN10CB	1/4	0.305	3/32	1/32	C990852
DCGX3(2.5)1-AL	DCGX11T304-AL	TN10CB	3/8	0.458	5/32	1/64	C990854
DCGX3(2.5)2-AL	DCGX11T308-AL	TN10CB	3/8	0.458	5/32	1/32	C990856

## ► LISTA: SCGX-AL



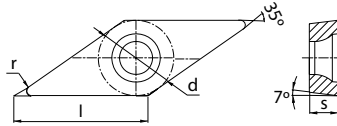
Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
SCGX3(2.5)1-AL	SCGX09T304-AL	CN9125	3/8	0.375	5/32	1/64	C990858
SCGX3(2.5)2-AL	SCGX09T308-AL	CN9125	3/8	0.375	5/32	1/32	C990860
SCGX431-AL	SCGX120404-AL	CN9125	1/2	0.500	3/16	1/64	C990862
SCGX432-AL	SCGX120408-AL	CN9125	1/2	0.500	3/16	1/32	C990864

## ► LISTA: TCGX-AL



Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
TCGX1.8(1.5)1-AL	TCGX090204-AL	TN10CB	7/32	0.379	3/32	1/64	C990866
TCGX2(1.5)1-AL	TCGX110204-AL	TN10CB	1/4	0.433	3/32	1/64	C990868
TCGX2(1.5)2-AL	TCGX110208-AL	TN10CB	1/4	0.433	3/32	1/32	C990870
TCGX3(2.5)1-AL	TCGX16T304-AL	TN10CB	3/8	0.650	5/32	1/64	C990872
TCGX3(2.5)2-AL	TCGX16T308-AL	TN10CB	3/8	0.650	5/32	1/32	C990874

# LISTA: VCGX-AL

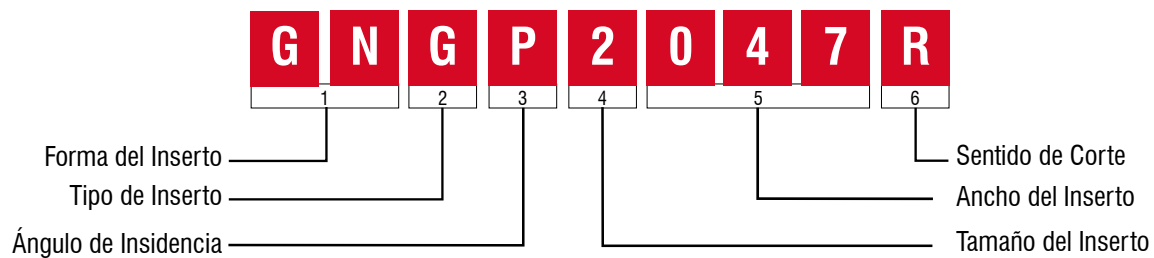


Designación		Grado	Dimensiones (IN)				Código
ANSI	ISO		d	l	s	r	
VCGX221-AL	VCGX110304-AL	TN10CB	1/4	0.436	1/8	1/64	C990876
VCGX222-AL	VCGX110308-AL	TN10CB	1/4	0.436	1/8	1/32	C990878
VCGX331-AL	VCGX160404-AL	TN10CB	3/8	0.654	3/16	1/64	C990880
VCGX332-AL	VCGX160408-AL	TN10CB	3/8	0.654	3/16	1/32	C990882
VCGX333-AL	VCGX160412-AL	TN10CB	3/8	0.654	3/16	3/64	C990884
VCGX220-AL	VCGX220512-AL	TN10CB	1/2	0.872	7/32	3/64	C990886
VCGX220-AL	VCGX220516-AL	TN10CB	1/2	0.872	7/32	1/16	C990888
VCGX220-AL	VCGX220530-AL	TN10CB	1/2	0.872	7/32	0.118	C990890

USO GENERAL



## ► NOMENCLATURA PARA INSERTOS DE RANURADO



### 1 Forma del Inserto

GN	Sistema de Ranurado G-Notch
----	-----------------------------

### 2 Tipo del Inserto

G	Ranurado
---	----------

### 3 Ángulo de Insidencia

P	Positivo
---	----------

### 4 Tamaño

2	Tamaño de Inserto 2
3	Tamaño de Inserto 3

### 5 Ancho del Inserto



El símbolo indica la anchura W en milésimas de pulgada

Símbolo	W (pulgs)
047	.047
062	.062
078	.078
094	.094
125	.125

### 6 Sentido del Corte

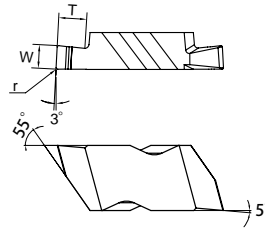
R	Corte Derecho
L	Corte Izquierdo



# ▶ INSERTOS PARA RANURADO



## ▶ LISTA: GNGP



Medida del Inserto	Designación ISO	Grado	Dimensiones (IN)			Código
			W	T	r	
2	GNGP 2047R	TM10CB	.047	.050	.004	C990892
2	GNGP 2047L	TM10CB	.047	.050	.004	C990894
2	GNGP 2062R	TM10CB	.062	.110	.008	C990896
2	GNGP 2062L	TM10CB	.062	.110	.008	C990898
2	GNGP 2078R	TM10CB	.078	.110	.008	C990900
2	GNGP 2078L	TM10CB	.078	.110	.008	C990902
2	GNGP 2094R	TM10CB	.094	.110	.008	C990904
2	GNGP 2094L	TM10CB	.094	.110	.008	C990906
2	GNGP 2125R	TM10CB	.125	.110	.008	C990908
2	GNGP 2125L	TM10CB	.125	.110	.008	C990910
3	GNGP 3047R	TM10CB	.047	.075	.008	C990912
3	GNGP 3047L	TM10CB	.047	.075	.008	C990914
3	GNGP 3062R	TM10CB	.062	.094	.008	C990916
3	GNGP 3062L	TM10CB	.062	.094	.008	C990918
3	GNGP 3078R	TM10CB	.078	.094	.008	C990920
3	GNGP 3078L	TM10CB	.078	.094	.008	C990922
3	GNGP 3094R	TM10CB	.094	.150	.008	C990924
3	GNGP 3094L	TM10CB	.094	.150	.008	C990926
3	GNGP 3125R	TM10CB	.125	.150	.008	C990928
3	GNGP 3125L	TM10CB	.125	.150	.008	C990930

USO GENERAL

# ▶ INSERTOS PARA TRONZADO



## ▶ LISTA: MGGN



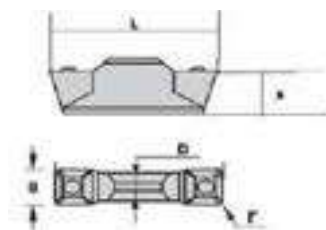
TM20CB



TN10CB



TP25CG

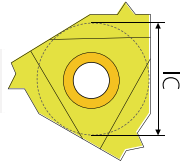


Descripción	Dimensiones (mm)					Grado	Código
	B	r	L	D	s		
MGGN 200-G	2	0.2	16	1.6	3.5	TM20CB	C998102
MGGN 300-G	3	0.4	21	2.35	4.8	TM20CB	C998104
MGGN 400-G	4	0.4	21	3.3	4.8	TM20CB	C998106
MGGN 200-LH	2	0.2	16	1.5	3.5	TN10CB	C998108
MGGN 300-LH	3	0.2	20	2.35	4.8	TN10CB	C998110
MGGN 200-M	2	0.2	16	1.5	3.5	-	C998112
MGGN 300-M	3	0.4	21	2.35	4.8	-	C998114
MGGN 400-M	4	0.4	21	3.3	4.8	-	C998116
MGMN 200-G	2	0.2	16	1.6	3.5	TP25CG	C998118
MGMN 300-G	3	1.4	21	2.35	4.8	TP25CG	C998120
MGMN 400-G	4	0.4	21	3.3	4.8	TP25CG	C998122

# NOMENCLATURA PARA INSERTOS DE ROSCADO



1	Tamaño de Inserto
	11-IC6.35mm
	16-IC9.525mm
	22-IC12.7mm



2	Aplicación
	Roscado Externo
	Roscado Interno

3	Dirección de Corte
	Izquierdo
	Derecho

4	Hilos por Pulgada
paso mm	Hilos por Pulgada
0.5-0.6	48-4

5	Estilo de Rosca
	Rosca ISO
	Rosca 55°
	Rosca 60°
	Rosca Whitworth
	Rosca BSPT
	Rosca UN (Unificada)
	Rosca NPT



## TP20TA-TiAIN

Buena resistencia al desgaste, para aplicaciones generales

## TP25TA-TiAISiN

Excelente resistencia al desgaste, ampliamente recomendado para acero inoxidable.

# ▶ INSERTOS DE ROSCADO



## Aplicaciones

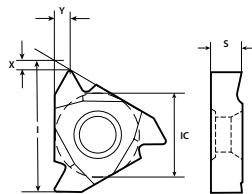


TP20TA



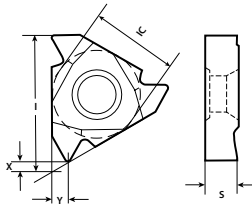
TP25TA

## ▶ EXTERIOR DERECHA DE 55°



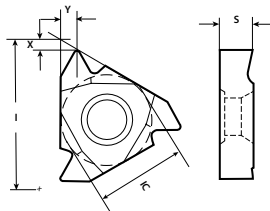
Descripción	TPI	Paso	Dimensiones					TP20TA	TP25TA
		mm	X	Y	I	IC	S		
16ERAG55A	48-8	0.5-0.3	1.2	1.7	16.5	9.525	3.52	C999102	C999104
16ERG55A	14-8	1.75-3.0	1.2	1.7	16.5	9.525	3.52	C999106	C999108

## ▶ INTERIOR DERECHA DE 55°



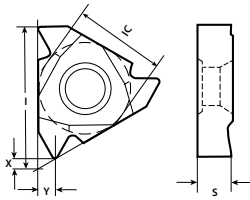
Descripción	TPI	Paso	Dimensiones					TP20TA	TP25TA
		mm	X	Y	I	IC	S		
16IRAG55A	48-8	0.5-0.3	1.2	1.7	16.5	9.525	3.52	C999114	C999116
16IRG55A	14-8	1.75-3.0	1.2	1.7	16.5	9.525	3.52	C999118	C999120

## ▶ EXTERIOR DERECHA DE 60°



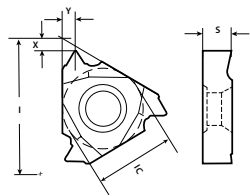
Descripción	TPI	PASO	Dimensiones					TP20TA	TP25TA
		mm	X	Y	I	IC	S		
16ERAG60A	48-8	0.5-0.3	1.2	1.7	16.5	9.525	3.52	C999202	C999204
16ERG60A	14-8	1.75-3.0	1.2	1.7	16.5	9.525	3.52	C999206	C999208

## ▶ INTERIOR DERECHA DE 60°



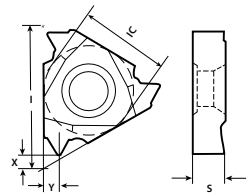
Descripción	TPI	PASO mm	Dimensiones					TP20TA	TP25TA
			X	Y	I	IC	S		
16IRAG60A	48-8	0.5-0.3	1.2	1.7	16.5	9.525	3.52	C999214	C999216
16IRG60A	14-8	1.75-3.0	1.2	1.7	16.5	9.525	3.52	C999218	C999220

## ▶ EXTERIOR DERECHA TIPO ISO



Descripción	PASO mm	Dimensiones					TP20TA	TP25TA
		X	Y	I	IC	S		
16ER1.00ISOA	1.00	0.7	0.7	16.5	9.525	3.52	C999302	C999304
16ER1.25ISOA	1.25	0.8	0.9	16.5	9.525	3.52	C999306	C999308
16ER1.50ISOA	1.50	0.8	1.0	16.5	9.525	3.52	C999310	C999312
16ER1.75ISOA	1.75	0.9	1.2	16.5	9.525	3.52	C999314	C999316
16ER2.00ISOA	2.00	1.0	1.3	16.5	9.525	3.52	C999318	C999320
16ER2.50ISOA	2.50	1.1	1.5	16.5	9.525	3.52	C999322	C999324
16ER3.00ISOA	3.00	1.2	1.6	16.5	9.525	3.52	C999326	C999328

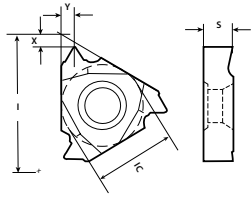
## ▶ INTERIOR DERECHA TIPO ISO



Descripción	PASO mm	Dimensiones					TP20TA	TP25TA
		X	Y	I	IC	S		
16IR1.00ISOA	1.00	0.6	0.4	16.5	9.525	3.52	C999330	C999332
16IR1.25ISOA	1.25	0.7	0.7	16.5	9.525	3.52	C999334	C999336
16IR1.50ISOA	1.50	0.8	0.9	16.5	9.525	3.52	C999338	C999340
16IR1.75ISOA	1.75	0.8	1.0	16.5	9.525	3.52	C999342	C999344
16IR2.00ISOA	2.00	1.0	1.3	16.5	9.525	3.52	C999346	C999348
16IR2.50ISOA	2.50	1.1	1.5	16.5	9.525	3.52	C999350	C999352
16IR3.00ISOA	3.00	1.2	1.6	16.5	9.525	3.52	C999354	C999356

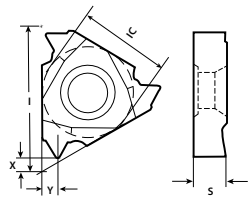
USO GENERAL

## ▶ EXTERIOR DERECHA TIPO UN (ESTÁNDAR AMERICANO)



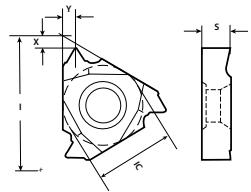
Descripción	TPI	Dimensiones					TP20TA	TP25TA
		X	Y	I	IC	S		
16ER12UNA	12	1.1	1.4	16.5	9.525	3.52	C999502	C999504
16ER14UNA	14	1.0	1.2	16.5	9.525	3.52	C999506	C999508

## ▶ INTERIOR DERECHA TIPO UN (ESTÁNDAR AMERICANO)



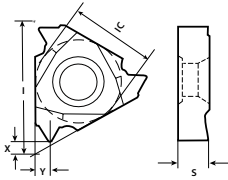
Descripción	TPI	Dimensiones					TP20TA	TP25TA
		X	Y	I	IC	S		
16IR12UNA	12	1.1	1.4	16.5	9.525	3.52	C999514	C999516
16IR14UNA	14	0.9	1.2	16.5	9.525	3.52	C999518	C999520

## ▶ EXTERIOR DERECHA TIPO NPT



Descripción	TPI	Dimensiones					TP20TA
		X	Y	I	IC	S	
16ER8NPT	8	1.3	1.8	16.5	9.525	3.52	C999602
16ER11.5NPT	11.5	1.1	1.5	16.5	9.525	3.52	C999606
16ER14NPT	14	0.9	1.2	16.5	9.525	3.52	C999610
16ER18NPT	18	0.8	1.0	16.5	9.525	3.52	C999614
16ER27NPT	27	0.7	0.8	16.5	9.525	3.52	C999618

## ▶ INTERIOR DERECHA TIPO NPT



Descripción	TPI	Dimensiones					TP20TA
		X	Y	I	IC	S	
16IR8NPT	8	1.3	1.8	16.5	9.525	3.52	C999622
16IR11.5NPT	11.5	1.1	1.5	16.5	9.525	3.52	C999626
16IR14NPT	14	0.9	1.2	16.5	9.525	3.52	C999630
16IR18NPT	18	0.8	1.0	16.5	9.525	3.52	C999634
16IR27NPT	27	0.7	0.8	16.5	9.525	3.52	C999638

USO GENERAL

# NOMENCLATURA PARA PORTA INSERTOS EXTERNOS

<b>P</b>	<b>S</b>	<b>K</b>	<b>N</b>	<b>R</b>	<b>25</b>	<b>25</b>	<b>M</b>	<b>12</b>	<b>C</b>
1	2	3	4	5	6	7	8	9	10

**1 Método de Montaje**

C T M P S

**2 Forma del Inserto**

C D E K  
L R S T  
V W A B  
H M O P

**3 Forma del Portainsero**

A B D E F G  
J K L M N R  
S T V Y Z

**5 Dirección de Corte**

L N R

**4 Ángulo de Despeje**

A B C  
D E F  
G N P

**6 Altura** **7 Ancho**

**8 Longitud**

A - 32	H - 100	Q - 180	x-special
B - 40	J - 110	R - 200	
C - 50	K - 125	S - 250	
D - 60	L - 140	T - 300	
E - 70	M - 150	U - 350	
F - 80	N - 160	V - 400	
G - 90	P - 170	W - 450	

**9 Dimensión de Inserto**

**10 Clamp**



# NOMENCLATURA PARA PORTA INSERTOS DE ROSCADO

<b>S</b>	<b>E</b>	<b>R</b>	<b>25</b>	<b>25</b>	<b>M</b>	<b>16</b>	<b>C</b>
1	2	3	4-5		6	7	8

## 1 Método de Montaje

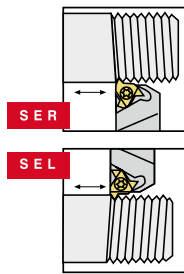
S: Tornillo y Sujetador  
T: Tornillo

## 2 Aplicación

E: Externa  
I: Interna

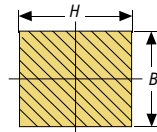
## 3 Dirección de Corte

R: Derecho  
L: Izquierdo

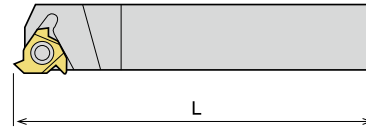


## 4-5 Dimensión del Zanco

Zanco: H x B

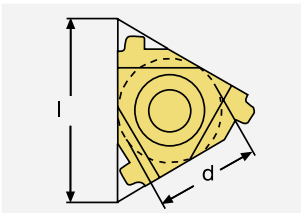


## 6 Longitud

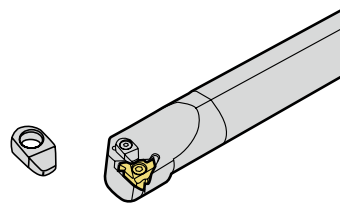


A - 32	H - 100	Q - 180	x-special
B - 40	J - 110	R - 200	
C - 50	K - 125	S - 250	
D - 60	L - 140	T - 300	
E - 70	M - 150	U - 350	
F - 80	N - 160	V - 400	
G - 90	P - 170	W - 450	

## 7 Tamaño del Inserto

	l (mm)	d
	06	5/32"
	08	3/16"
	11	1/4"
	16	3/8"
	22	1/2"
	27	5/8"

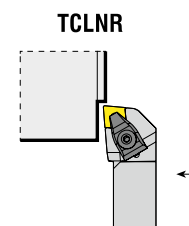
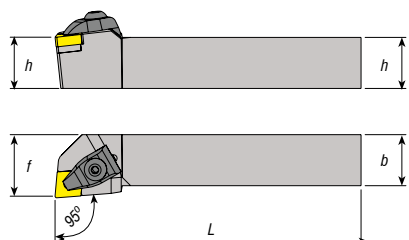
## 10 Clamp



# PORTA INSERTOS

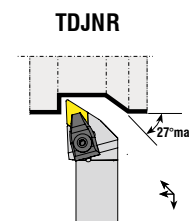
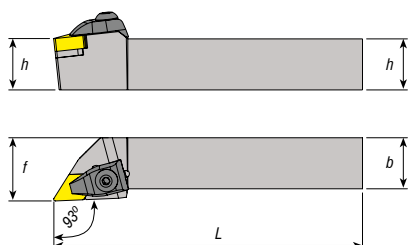


## TIPO C



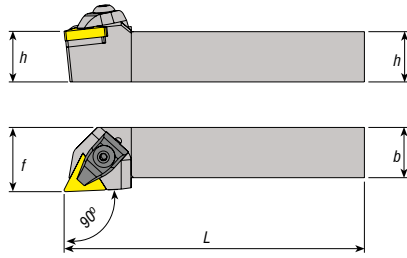
Descripción	Izquierda	Derecha	Dimensiones				Inserto	Código
			h	b	L	f		
TCLNR2020K12		*	20	20	125	25	CNMG 1204	C998202
TCLNR2525M12		*	25	25	150	32	CNMG 1204	C998204
TCLNR2525M16		*	25	25	150	32	CNMG 1606	C998206
TCLNL2020K12	*		20	20	125	25	CNMG 1204	C998208
TCLNL2525M12	*		25	25	150	32	CNMG 1204	C998210
TCLNL2525M16	*		25	25	150	32	CNMG 1606	C998212

## TIPO D

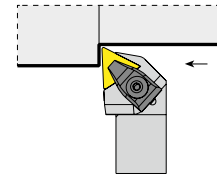


Descripción	Izquierda	Derecha	Dimensiones				Inserto	Código
			h	b	L	f		
TDJNR2020K11		*	20	20	125	25	DNMG 1104	C998214
TDJNR2525M11		*	25	25	150	32	DNMG 1104	C998216
TDJNR2525M1504		*	25	25	150	32	DNMG 1504	C998218
TDJNL2020K11	*		20	20	125	25	DNMG 1104	C998220
TDJNL2525M11	*		25	25	150	32	DNMG 1104	C998222
TDJNL2525M1504	*		25	25	150	32	DNMG 1504	C998224

## ▶ TIPO T

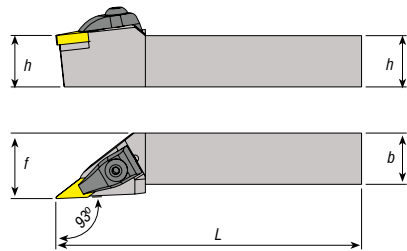


TTGNR

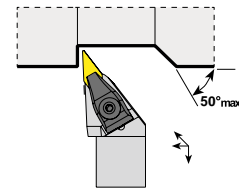


Descripción	Izquierda	Derecha	Dimensiones				Inserto	Código
			h	b	L	f		
TTGNR2020K16		*	20	20	125	25	TNMG 1604	C998226
TTGNR2525M16		*	25	25	150	32	TNMG 1604	C998228
TTGNR2525M22		*	25	25	150	32	TNMG 2204	C998230
TTGNL2020K16	*		20	20	125	25	TNMG 1604	C998232
TTGNL2525M16	*		25	25	150	32	TNMG 1604	C998234
TTGNL2525M22	*		25	25	150	32	TNMG 2204	C998236

## ▶ TIPO V

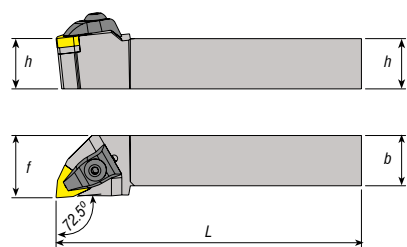


TVJNR

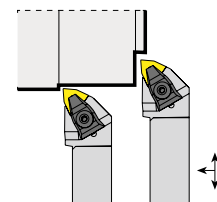


Descripción	Izquierda	Derecha	Dimensiones				Inserto	Código
			h	b	L	f		
TVJNR2020K16		*	20	20	125	25	VNMG 1604	C998238
TVJNR2525M16		*	25	25	150	32	VNMG 1604	C998240
TVJNL2020K16	*		20	20	125	25	VNMG 1604	C998242
TVJNL2525M16	*		25	25	150	32	VNMG 1604	C998244

## ▶ TIPO W



TWLNR



Descripción	Izquierda	Derecha	Dimensiones				Inserto	Código
			h	b	L	f		
TWLN2020K06		*	20	20	125	25	WNMG 0604	C998246
TWLN2525M06		*	25	25	150	32	WNMG 0604	C998248
TWLN2525M08		*	25	25	150	32	WNMG 0804	C998250
TWLN2020K06	*		20	20	125	25	WNMG 0604	C998252
TWLN2525M06	*		25	25	150	32	WNMG 0604	C998254
TWLN2525M08	*		25	25	150	32	WNMG 0804	C998256